Index of Papers Published in 1971 Journals

Author Index

A

Aagaard, P. M. and Petrauskas, C.: *Extrapolation of Historical Storm Data for Estimating Design-Wave Heights,* SPEJ Mar., 23

Al-Hussainy, R. and Odeh, A. S.: *A Method for Determining the Static Pressure of a Well from Buildup Data,* JPT May, 621

Alikhan, A. A. and Farouq Ali, S. M.: *Oil Recovery by Hydrocarbon Slugs Driven by a Hot Water Bank,* (Tech. Paper) SPEJ Dec., 342

Anderson, F., *et al: Well Completions — A Look Forward,* (Art.) JPT Jan., 128

Archer, D. L. and Owens, W. W.: *The Effect of Rock Wettability on Oil-Water Relative Permeability Relationships,* JPT July, 873

Arps, J. J., *et al: Relationship Between Proved Reserves And Exploratory Effort,* (Tech. Paper) JPT June, 671

Atherton, S. D.: *H_2S — A Toxic Gas That Can Kill,* (Forum) JPT Mar., 273

B

Banks, M., *et al: Technology, Economics, Communication — Keys to Drilling Success in Coming Decades,* (Art.) JPT Jan., 122

Barbe, J. A.: *Evaluation and Modification of the Means San Andres Unit Waterflood,* (Tech. Paper) JPT Dec., 1421

Barbe, J. A. and Boyd, B. L.: *Short-Term Buildup Testing,* (Tech. Paper) JPT July, 800

Bayazeed, A. F., *et al: Oil Vaporization During Steamflooding,* JPT June, 731

Beaver, K. W., *et al: Little Buffalo Basin Tensleep Heterogeneity — Its Influence on Drilling and Secondary Recovery,* (Tech. Paper) JPT Feb., 161

Bia, P. and Combarnous, M.: *Combined Free and Forced Convection in Porous Media,* SPEJ Dec., 399

Biglane, K.: *Government Views on Water-Pollution Control,* (Forum) JPT July, 829

Blackwell, R. J. and Richardson, J. G.: *Use of Simple Mathematical Models for Predicting Reservoir Behavior,* JPT Sept., 1145

Blair, E. A., *et al: A Reservoir Study of the Friendswood Field,* (Tech. Paper) JPT June, 685

Bluestein, E., Jr.: *Admiralty Law and Its Effect on Offshore Development,* (Tech. Paper) JPT Mar., 276

Bonnet, J. L., *et al: The Production Combination Tool — A New System for Production Monitoring,* (Tech. Paper) JPT May, 603

Boone, D., *et al: Well Completions — A Look Forward,* (Art.) JPT Jan., 128

Borst, R. L. and Shell, F. J.: *The Effect of Thinners on the Fabric of Clay Muds and Gels,* (Tech. Paper) JPT Oct., 1193

Bosley, T. G., *et al: Cementing Materials for Cold Environments,* (Tech. Paper) JPT Oct., 1215

Boubeguira, A., *et al: Compositional Reservoir Simulator for Fissured Systems — The Single Block Model,* (Tech. Paper) SPEJ June, 113

Boyd, B. L. and Barbe, J. A.: *Short-Term Buildup Testing,* (Tech. Paper) JPT July, 800

Bray, B. G. and Coffer, H. F.: *Can Petroleum Engineering Survive the Space Age?,* (Art.) JPT Jan., 63

Brill, J. P., *et al: An Efficient Model for Evaluating Gas Field Gathering System Design,* (Tech. Paper) JPT Sept., 1067

Brooks, F. A., Jr.: *Consolidation of Dirty Sands by Phenol-Formaldehyde Plastic,* (Tech. Paper) JPT Aug., 934

Burley, J. D. and Drouin, A. H.: *A Solution to Ground Subsidence Problems in Casing Strings and Wellheads,* (Tech. Paper) JPT June, 654

C

Campbell, W. M., *et al: Competitive Bidding in High-Risk Situations,* (Tech. Paper) JPT June, 641

Capen, E. C., *et al: Competitive Bidding in High-Risk Situations,* (Tech. Paper) JPT June, 641

Carter, M. A., *et al: Cemeting Materials for Cold Environments,* (Tech. Paper) JPT Oct., 1215

Casad, B. M., *et al: The Effect of Cathodic Protection on the Corrosion Fatigue Behavior of Carbon Steel in Synthetic Sea Water,* (Tech. Paper) JPT Mar., 283

Casey, T. J.: *A Field Test of the In-Situ Combustion Process in a Near-Depleted Water Drive Reservoir,* (Tech. Paper) JPT Feb., 153

Caudle, B. H. and LeBlanc, J. L.: *A Streamline Model for Secondary Recovery,* (Tech. Paper) SPEJ Mar., 7

Caudle, B. H. and Robertson, R. W.: *Permeability Continuity of Laminae in the Calvin Sandstone,* (Tech. Paper) JPT June, 661

Caudle, B. H., *et al: Adverse Influence of Stratification on a Gas Cycling Project,* (Tech. Paper) JPT Feb., 191

Cavanaugh, R. J., *et al: Comparison of Conventional Core Data, Well Logging Analyses and Sidewall Samples,* (Tech. Paper) JPT Dec., 1409

Champlin, J. B. F.: *The Physics of Fine-Particle Movement Through Permeable Aquifers,* (Tech. Paper) SPEJ Dec., 367

Chaudhari, N. M.: *An Improved Numerical Technique for Solving Multidimensional Miscible Displacement Equations,* SPEJ Sept., 277

Cheatham, J. B., Jr., and Miller, T. W.: *Rock/Bit-Tooth Interaction for Conical Bit Teeth,* SPEJ June, 162

Cheatham, J. B., Jr., and Schneider, W. C.: *Indentation Analysis for General Shapes of Surface Boundaries and Punch Profiles,* SPEJ Sept., 321

Chu, C.: *Kinetics of Methane Oxidation Inside Sandstone Matrices,* (Tech. Paper) SPEJ June, 145

Clapp, R. V., *et al: Competitive Bidding in High-Risk Situations,* (Tech. Paper) JPT June, 641

Clark, C. O., *et al: Chemical Method for Formation Plugging,* (Tech. Paper) JPT May, 559

Clavier, C., *et al: Quantitative Interpretation of Thermal Neutron Decay Time Logs: Part I. Fundamentals and Techniques,* JPT June, 743

Quantitative Interpretation of Thermal Neutron Decay Time Logs: Part II. Interpretation Example, Interpretation Accuracy, and Time-Lapse Technique, JPT June, 756

Clegg, J. D.: *Casing Failure Study — Cedar Creek Anticline,* (Tech. Paper) JPT June, 676

Coats, K. H., *et al: An Efficient Model for Evaluating Gas Field Gathering System Design,* (Tech. Paper) JPT Sept., 1067

Prediction of Polymer Flood Performance, SPEJ Mar., 72

The Use of Vertical Equilibrium in Two-Dimensional Simulation of Three-Dimensional Reservoir Performance, SPEJ March., 63

Cobb, W. M. and Ramey, H. J., Jr.: *A General Pressure Buildup Theory for a Well in a Closed Drainage Area,* JPT Dec., 1493

Cochran, R. A. and Scott, P. R.: *The Growth of Oil Slicks and Their Control by Surface Chemical Agents,* (Tech. Paper) JPT July, 781

Coffer, H. F. and Bray, B. G.: *Can Petroleum Engineering Survive the Space Age?,* (Art.) JPT Jan., 63

Cole, F. W., *et al: Technology, Economics, Communication — Keys to Drilling Success in Coming Decades,* (Art.) JPT Jan., 122

Colegrove, G. T., *et al: Prediction of Polymer Flood Performance,* SPEJ Mar., 72

Combarnous, M. and Bia, P.: *Combined Free and Forced Convection in Porous Media,* SPEJ Dec., 399

Combs, G. D. and Knezek, R. B.: *Gas Injection for Upstructure Drainage,* (Tech. Paper) JPT Mar., 361

Cook, C. F., *et al: A Theoretical and Laboratory Evaluation of Carbon Logging — Laboratory Evaluation,* (Tech. Paper) SPEJ June, 129; discussion, 137
Cornell, G. L.: *Operational Problems with 8000-psig Injection Compressors,* (Tech. Paper) JPT Apr., 424
Cox, J. B. and Underriner, C. F., Jr.: *Electronic Computer Production Management — A New Era,* (Tech. Paper) JPT July, 793
Culham, W. E. and Varga, R. S.: *Numerical Methods for Time-Dependent, Nonlinear Boundary Value Problems,* (Tech. Paper) SPEJ Dec., 374
Culter, J. D., *et al: Drag Reduction with a Polymeric Additive in Crude Oil Pipelines,* (Tech. Paper) SPEJ Sept., 229
Cunningham, W. C., *et al: Cementing Materials for Cold Environments,* (Tech. Paper) JPT Oct., 1215
Curtis, L. B.: *The First Ten of the Next Hundred Years,* (Art.) JPT Jan., 11

D

Dareing, D. W., *et al: Effect of Rock Stress on Gas Production from Low-Permeability Reservoirs,* JPT Sept., 1161
Dauben, D. L. and Froning, H R.: *Development and Evaluation of Micellar Solutions To Improve Water Injectivity,* (Tech. Paper) JPT May, 614
Davidson, L. B.: *Polywater and Reservoir Engineering,* (Forum) JPT Oct., 1263
Day, J. J., *et al: Radiotracers in Gas-Liquid Transportation Problems — A Field Case,* (Tech. Paper) JPT Aug., 939
Debanné, J. G.: *A Model for Continental Oil Supply and Distribution,* (Tech. Paper) JPT Sept., 1089
Dempsey, J. R., *et al: An Efficient Model for Evaluating Gas Field Gathering System Design,* (Tech. Paper) JPT Sept., 1067
The Use of Vertical Equilibrium in Two-Dimensional Simulation of Three-Dimensional Reservoir Performance, SPEJ Mar., 63
Doyle, R. E. and Wurl, T. M.: *Stream Channel Concept Applied to Waterflood Performance Calculations for Multiwell, Multizone, Three-Component Cases,* (Tech. Paper) JPT Mar., 373
Dreher, K. D. and Sydansk, R. D.: *On Determining the Continuous Phase in Microemulsions,* (Forum) JPT Dec., 1437
Drouin, A. H. and Burley, J. D.: *A Solution to Ground Subsidence Problems in Casing Strings and Wellheads,* (Tech. Paper) JPT June, 654
Durrer, E. J. and Slater, G. E.: *Adjustment of Reservoir Simulation Models to Match Field Performance,* SPEJ Sept., 295

E

Earlougher, R. C., Jr.: *Estimating Drainage Shapes from Reservoir Limit Tests,* JPT Oct., 1266
Eddy, H. D., *et al: A Mathematical Analysis of Errors in Directional Survey Calculations,* (Tech. Paper) JPT Nov., 1368
El-Saleh, M. M. and Farouq Ali, S. M.: *Oil Recovery by a Water-Driven Steam Slug,* (Tech. Paper) SPEJ Dec., 351
Emmett, W. R., *et al: Little Buffalo Basin Tensleep Heterogeneity — Its Influence on Drilling and Secondary Recovery,* (Tech. Paper) JPT Feb., 161
Enquist, B. R., *et al: A Reservoir Study of the Friendswood Field,* (Tech. Paper) JPT June, 685
Essis B, A. E. and Thomas, G. W.: *The Use of Open Flow Potential Test Data in Determining Formation Capacity and Skin Factor,* JPT July, 879
Estes, J. C.: *Selection and Performance of Rotary Rock Bits,* (Tech. Paper) JPT Nov., 1359
Evrenos, A. I., *et al: Impermeation of Porous Media by Forming Hydrates In Situ,* (Tech. Paper) JPT Sept., 1059

F

Fallin, S., *et al: Defoaming Agents for Increased Oil Production Rates of Foamy Crudes — Laboratory Screening Tests and Field Results,* (Tech. Paper) JPT Feb., 233
Farouq Ali, S. M. and Alikhan, A. A.: *Oil Recovery by Hydrocarbon Slugs Driven by a Hot Water Bank,* (Tech. Paper) SPEJ Dec., 342
Farouq Ali, S. M. and El-Saleh, M. M.: *Oil Recovery by a Water-Driven Steam Slug,* (Tech. Paper) SPEJ Dec., 351
Felsenthal, M. and Ferrell, H. H.: *Fracturing Gradients in Waterfloods of Low-Permeability, Partially Depleted Zones,* (Tech. Paper) JPT June, 727
Ferrell, H. H. and Felsenthal, M.: *Fracturing Gradients in Waterfloods of Low-Permeability, Partially Depleted Zones,* (Tech. Paper) JPT June, 727
Fertl, W. H. and Timko, D. J.: *Relationship Between Hydrocarbon Accumulation and Geopressure and Its Economic Significance,* (Tech. Paper) JPT Aug., 923; discussion, 931
Fertl, W. H., *et al: Comparison of Conventional Core Data, Well Logging Analyses, and Sidewall Samples,* (Tech. Paper) JPT Dec., 1409
Fetkovich, M. J.: *A Simplified Approach to Water Influx Calculations — Finite Aquifer Systems,* (Tech. Paper) JPT July, 814
Field, M. B., *et al: A Numerical Simulation of Kaybob South Gas Cycling Projects,* (Tech. Paper) JPT Oct., 1253
Ford, W. T., *et. al: Compositional Reservoir Simulator for Fissured Systems—The Single Block Model,* (Tech. Paper) SPEJ June, 113
Fowler, W. A., Jr.: *Discussion on Relationship between Hydrocarbon Accumulation and Geopressure and Its Economic Significance,* (Tech. Paper) JPT Aug., 931
Froning, H R. and Dauben, D. L.: *Development and Evaluation of Micellar Solutions To Improve Water Injectivity,* (Tech. Paper) JPT May, 614
Fulton, P. F. and Wu, C. H.: *Experimental Simulation of the Zones Preceding the Combustion Front of an In-Situ Combustion Process,* SPEJ Mar., 38

G

Garaicochea, F.: *Optimum Flow Conditions Through Tubing and Annular Spaces,* (Forum) JPT Apr., 447
Garrett, J. E. and McNeill, W. E., Jr.: *Predicting Optimum Shut-In of Wells in Peripheral and Line Drive Waterfloods,* JPT Apr., 497
Garvin, T. and Slagle, K. A.: *Scale-Model Displacement Studies To Predict Flow Behavior During Cementing,* (Tech. Paper) JPT Sept., 1081
Gates, C. F. and Sklar, I.: *Combustion as a Primary Recovery Process — Midway Sunset Field,* JPT Aug., 981
Gidley, J. L.: *Stimulation of Sandstone Formations with the Acid-Mutual Solvent Method,* (Tech. Paper) JPT May, 551
Gidley, J., *et al: Well Completions — A Look Forward,* (Art.) JPT Jan., 128
Gleeson, C. W. and Langewis, C., Jr.: *Practical Hydraulics of Positive Displacement Pumps for High-Pressure Waterflood Installations,* (Tech. Paper) JPT Feb., 173
Goins, W. C., Jr.: *Selected Items of Interest in Drilling Technology — An SPE Distinguished Lecture,* (Art.) JPT July, 857
Good, L. W., *et al: A Reservoir Study of the Friendswood Field,* (Tech. Paper) JPT June, 685
Greaney, W. A. and Hartsock, J. H.: *A Stochastic Inventory Model for Scheduling Development Drilling,* (Tech. Paper) SPEJ Sept., 252
Gstalder, S. A., *et al: Organization of Field Tests and Evaluation of Tricone Bit Performance Using Statistical Analysis and Sonic Logs,* JPT Apr., 506
Guin, J. A. and Schechter, R. S.: *Matrix Acidization with Highly Reactive Acids,* SPEJ Dec., 390

H

Hamby, T., *et al: Well Completions — A Look Forward,* (Art.) JPT Jan., 128
Hammack, G. W., *et al: Comparison of Conventional Core Data, Well Logging Analyses, and Sidewall Samples,* (Tech. Paper) JPT Dec., 1409
Hanks, R. W. and Valia, M. P.: *A Theory of Transitional and Turbulent Flow of Non-Newtonian Slurries Between Flat Parallel Plates,* SPEJ Mar., 52

Harris, M. H. and McCammon, R. B.: *A Computer-Oriented Generalized Porosity-Lithology Interpretation of Neutron, Density and Sonic Logs,* (Tech. Paper) JPT Feb., 239
Hartsock, J. H. and Greaney, W. A.: *A Stochastic Inventory Model for Scheduling Development Drilling,* (Tech. Paper) SPEJ Sept., 252
Harvey, R. P., *et al: A Mathematical Analysis of Errors in Directional Survey Calculations,* (Tech. Paper) JPT Nov., 1368
Haskin, C. A., *et al: Chemical Method for Formation Plugging,* (Tech. Paper) JPT May, 559
Headley, L. C., *et al: Possible Use of Magnetic Fields in Determining Pore Geometry of Porous Media,* (Tech. Paper) SPEJ Sept., 223
Hearn, C. L.: *Simulation of Stratified Waterflooding by Pseudo Relative Permeability Curves,* (Tech. Paper) JPT July, 805
Hearn, C. L., *et al: Effect of Rock Stress on Gas Production from Low-Permeability Reservoirs,* JPT Sept., 1161
Heathman, J., *et al: Impermeation of Porous Media by Forming Hydrates In-Situ,* (Tech. Paper) JPT Sept., 1059
Henderson, J. H., *et al: The Use of Vertical Equilibrium in Two-Dimensional Simulation of Three-Dimensional Reservoir Performance,* SPEJ Mar., 63
Herbeck, E. F. and Staggs, H. M.: *Reservoir Simulation Models — An Engineering Overview,* (Tech. Paper) JPT Dec., 1428
Hess, P. H., *et al: Chemical Method for Formation Plugging,* (Tech. Paper) JPT May, 559
Hinton, C., *et al: Technology, Economics, Communication — Keys to Drilling Success in Coming Decades,* (Art.) JPT Jan., 122
Holm, L. W.: *Use of Soluble Oils for Oil Recovery,* JPT Dec., 1475
Holm, L. W. and O'Brien, L. J.: *Carbon Dioxide Test at the Mead-Strawn Field,* (Tech. Paper) JPT Apr., 431
Horton, E. E. and Pauling, J. R.: *Analysis of the Tension Leg Platform,* SPEJ Sept., 285
Hoyer, W. A.: *Discussion on A Theoretical and Laboratory Evaluation of Carbon Logging — Laboratory Evaluation,* (Tech. Paper) SPEJ June, 137
Hoyle, W. R., *et al: Log Analysis in Formations with Complex Lithologies,* JPT Aug., 995
Quantitative Interpretation of Thermal Neutron Decay Time Logs: Part I. Fundamentals and Techniques, JPT June, 743
Quantitative Interpretation of Thermal Neutron Decay Time Logs: Part II. Interpretation Example, Interpretation Accuracy, and Time-Lapse Technique, JPT June, 756
Hudgins, C. M., Jr., *et al: The Effect of Cathodic Protection on the Corrosion Fatigue Behavior of Carbon Steel in Synthetic Sea Water,* (Tech. Paper) JPT Mar., 283
Hull, T. R., *et al: Chemical Method for Formation Plugging,* (Tech. Paper) JPT May, 559

J

Jeffords, C. M., *et al: Developments in Testing from Floating Vessels,* (Tech. Paper) JPT July, 788
Jennings, H. Y., Jr., and Newman, G. H.: *The Effect of Temperature and Pressure on the Interfacial Tension of Water Against Methane—Normal Decane Mixtures,* SPEJ June, 171
Jennings, R. R., *et al: Factors Influencing Mobility Control by Polymer Solutions,* JPT Mar., 391
Johnson, F. S., *et al: Oil Vaporization During Steamflooding,* JPT June, 731
Jones, L. G. and Watts, J. W.: *Estimating Skin Effect in a Partially Completed Damaged Well,* JPT Feb., 249
Jorden, J. R.: *Goals for Formation Evaluation,* (Art.) JPT Jan., 55
Joyner, H. D. and Lovingfoss, W. J.: *Use of a Computer Model in Matching History and Predicting Performance of Low Permeability Gas Wells,* (Tech. Paper) JPT Dec., 1415

K

Kaliappan, C. S. and Rowe, A. M., Jr.: *Calculation of Pressure-Temperature Phase Envelopes of Multi-component Systems,* (Tech. Paper) SPEJ Sept., 243
Katz, D. L.: *Depths to Which Frozen Gas Fields (Gas Hydrates) May Be Expected,* (Tech. Paper) JPT Apr., 419
Kazemi, H. and Perkins, T. K.: *A Mathematical Model of Thaw-Freeze Cycles Beneath Drilling Rigs and Production Platforms in Cold Regions,* JPT Mar., 381
Keaton, J. C.: *Factors Controlling Gas Supply and Demand,* (Art.) JPT Jan., 41
Kelsey, F. J. and Simon, R.: *The Use of Capillary Tube Networks in Reservoir Performance Studies: I. Equal-Viscosity Miscible Displacements,* (Tech. Paper) SPEJ June, 99
Khan, A. M.: *An Empirical Approach to Waterflood Predictions,* (Tech. Paper) JPT May, 565
Kipp, E.: *The Evolution of Petroleum Engineering as Applied to Oilfield Operations,* (Art.) JPT Jan., 107
Knezek, R. B. and Combs, G. D.: *Gas Injection for Upstructure Drainage,* (Tech. Paper) JPT Mar., 361
Knutson, C. F., *et al: Sandstone Continuity in the Mesaverde Formation, Rulison Field Area, Colorado,* (Tech. Paper) JPT Aug., 911
Komar, C. A., *et al: Factors that Predict Fracture Orientation in a Gas Storage Reservoir,* (Tech. Paper) JPT May, 546
Kraemer, M. S.: *Producing Operations of the Future,* (Art.) JPT Jan, 27
Krueger, R. F. and Maly, G. P.: *Improper Formation Sampling Leads To Improper Selection of Gravel Size,* (Tech. Paper) JPT Dec., 1403
Kyle, C. R. and Perrine, R. L.: *Turbulent Dispersion in Porous Materials as Modeled by a Mixing Cell with Stagnant Zone,* SPEJ Mar., 57

L

Lambert, W. G., *et al: Factors that Predict Fracture Orientation in a Gas Storage Reservoir,* (Tech. Paper) JPT May, 546
Land, C. S.: *Comparison of Calculated with Experimental Imbibition Relative Permeability,* SPEJ Dec., 419
Lane, B. B.: *Determining a Proper Flood Pattern from a Three-Well Pilot in a Channel Sand,* (Tech. Paper) JPT Feb., 195
Langewis, C., Jr., and Gleeson, C. W.: *Practical Hydraulics of Positive Displacement Pumps for High-Pressure Waterflood Installations,* (Tech. Paper) JPT Feb., 173
Lantz, R. B.: *Quantitative Evaluation of Numerical Diffusion (Truncation Error),* SPEJ Sept., 315
Larminie, F. G.: *The Arctic as an Industrial Environment — Some Aspects of Petroleum Development in Northern Alaska,* (Art.) JPT Jan. 19
Lawson, B. L., *et al: A Theoretical and Laboratory Evaluation of Carbon Logging—Laboratory Evaluation,* (Tech. Paper) SPEJ June, 129; discussion, 137
LeBlanc, J. L. and Caudle, B. H.: *A Streamline Model for Secondary Recovery,* (Tech. Paper) SPEJ Mar., 7
Lescarboura, J. A., *et al: Drag Reduction with a Polymeric Additive in Crude Oil Pipelines,* (Tech. Paper) SPEJ Sept., 229
Lovingfoss, W. J. and Joyner, H. D.: *Use of a Computer Model in Matching History and Predicting Performance of Low Permeability Gas Wells,* (Tech. Paper) JPT Dec., 1415
Lucas, A. F.: *The Great Oil-Well Near Beaumont, Texas* (Art.) JPT Nov., 1328
Lummus, J. L.: *Acquisition and Analysis of Data for Optimized Drilling,* (Tech. Paper) JPT Nov., 1285

M

Magara, K.: *Permeability Considerations in Generation of Abnormal Pressures,* (Tech. Paper) SPEJ Sept., 236
Maier, L. F., *et al: Cementing Materials for Cold Environments,* (Tech. Paper) JPT Oct., 1215
Maly, G. P. and Krueger, R. F.: *Improper Formation Sampling Leads To Improper Selection of Gravel Size* (Tech. Paper) JPT Dec., 1403
Marek, B. F.: *Predicting Pore Compressibility of Reservoir Rocks,* (Forum) SPEJ Dec., 340
Marsden, S. S., Jr., and Raghavan, R.: *Theoretical Aspects of Emulsification in Porous Media,* SPEJ June, 153

XUM

Marsden, S. S., Jr., *et al: Effect of Temperature Level upon Capillary Pressure Curves,* (Tech. Paper) SPEJ Mar., 13
Marshall, J.: *Water, Wells, and Weather — The Offshore Challenge,* (Art.) JPT Mar., 317
Martínez, J. J. and Pérez-Rosales, C.: *Structural Characteristics of Granular Porous Media,* (Tech. Paper) SPEJ Dec., 363
Mathias, J. P.: *Successful Stimulation of a Thick, Low-Pressure, Water-Sensitive Gas Reservoir by Pseudolimited Entry,* (Tech. Paper) JPT Feb., 185
Maxwell, E. L., *et al: Sandstone Continuity in the Mesaverde Formation, Rulison Field Area, Colorado,* (Tech. Paper) JPT Aug., 911
McCain, W. D., Jr., and Stacy, T. D.: *A Method of Correlation of High-Temperature, High-Pressure Gas-Solid Adsorption Data,* (Forum) SPEJ Mar., 4
McCaleb, J. A., *et al: Little Buffalo Basin Tensleep Heterogeneity—Its Influence on Drilling and Secondary Recovery,* (Tech. Paper) JPT Feb., 161
McCammon, R. B. and Harris, M. H.: *A Computer Oriented Generalized Porosity-Lithology Interpretation of Neutron, Density and Sonic Logs,* (Tech. Paper) JPT Feb., 239
McCreary, J. G.: *A Simple Method for Controlling Gas Percolation in Numerical Simulation of Solution Gas Drive Reservoirs,* SPEJ Mar., 85
McKinley, R. M.: *Wellbore Transmissibility from Afterflow-Dominated Pressure Buildup Data,* JPT July, 863
McLamore, R. T.: *The Role of Rock Strength Anisotropy in Natural Hole Deviation,* JPT Nov., 1313
McLeod, W. R., *et al: Radiotracers in Gas-Liquid Transportation Problems—A Field Case,* (Tech. Paper) JPT Aug., 939
McNeill, W. E., Jr., and Garrett, J. E.: *Predicting Optimum Shut-In of Wells in Peripheral and Line Drive Waterfloods,* JPT Apr. 497
Merrick, R. J., *et al: Adverse Influence of Stratification on a Gas Cycling Project,* (Tech. Paper) JPT Feb., 191
Meunier, D., *et al: Quantitative Interpretation of Thermal Neutron Decay Time Logs: Part I. Fundamentals and Techniques,* JPT June, 743
Quantitative Interpretation of Thermal Nuetron Decay Time Logs: Part II. Interpretation Example, Interpretation Accuracy, and Time-Lapse Technique, JPT June, 756
The Production Combination Tool — A New System for Production Monitoring, (Tech. Paper) JPT May, 603
Meyer, L. J. and van Everdingen, A. F.: *Analysis of Buildup Curves Obtained After Well Treatment,* JPT Apr., 513
Miller, T. W. and Cheatham, J. B., Jr.: *Rock/Bit-Tooth Interaction for Conical Bit Teeth,* SPEJ June, 162
Millheim, K., *et al: Sandstone Continuity in the Mesaverde Formation, Rulison Field Area, Colorado,* (Tech. Paper) JPT Aug., 911
Mortada, M., *et al: Relationship Between Proved Reserves and Exploratory Effort,* (Tech. Paper) JPT June, 671
Muckleroy, J. A. *et al: Organization of Field Tests and Evaluation of Tricone Bit Performance Using Statistical Analysis and Sonic Logs,* JPT Apr., 506
Muga, B. J.: *Experimental and Theoretical Study of Motion of a Moored Barge,* (Tech. Paper) SPEJ Sept., 206
Murphey, C. E., Jr., *et al: A Magnetic Device to Detect Tension Failures in Oilfield Casing,* (Tech Paper) JPT Aug., 905
Muscovalley, J. N., *et al: Technology, Economics, Communication—Keys to Drilling Success in Coming Decades,* (Art.) JPT Jan., 122
Myers, G. M. and Sutko, A. A.: *The Effect of Nozzle Size, Number, and Extension on the Pressure Distribution Under a Tricone Bit,* (Tech. Paper) JPT Nov., 1299

N

Nedom, H. A.: *Planning the Energy Years,* (Art.) JPT Jan., 13
Newman, G. H. and Jennings, H. Y., Jr.: *The Effect of Temperature and Pressure on the Interfacial Tension of Water Against Methane-Normal Decane Mixtures,* SPEJ June, 171
Nierode, D. E. and Williams, B. B.: *Characteristics of Acid Reaction in Limestone Formations,* SPEJ Dec., 406
Niko, H. and Troost, P. J. P. M.: *Experimental Investigation of Steam Soaking In a Depletion-Type Reservoir,* JPT Aug., 1006

O

O'Brien, L. J. and Holm, L. W.: *Carbon Dioxide Test at the Mead-Strawn Field,* (Tech Paper) JPT Apr., 431
Odeh, A. S. and Al-Hussainy, R.: *A Method for Determining the Static Pressure of a Well from Buildup Data,* JPT May, 621
Overbey, W. K., Jr., *et al: Factors that Predict Fracture Orientation In a Gas Storage Reservoir,* (Tech. Paper) JPT May, 546
Owen, J. D., *et al: A Theoretical and Laboratory Evaluation of Carbon Logging — Laboratory Evaluation,* (Tech Paper) SPEJ June, 129; discussion, 137
Owens, W. W. and Archer, D. L.: *The Effect of Rock Wettability on Oil-Water Relative Permeability Relationships,* JPT July, 873

P

Padgett, J. B., *et al: Compositional Reservoir Simulator for Fissured Systems — The Single-Block Model,* (Tech. Paper) SPEJ June, 113
Parrish, D. R. and Satter, A.: *A Two-Dimensional Analysis of Reservoir Heating by Steam Injection,* SPEJ June, 185
Patterson, J. K., *et al: A Numerical Simulation of Kaybob South Gas Cycling Projects,* (Tech. Paper) JPT Oct., 1253
An Efficient Model for Evaluating Gas Field Gathering System Design, (Tech. Paper) JPT Sept., 1067
Patterson, M. M., *et al: A Magnetic Device to Detect Tension Failures in Oilfield Casing,* (Tech. Paper) JPT Aug., 905
Patton, C. C., *et al: The Effect of Cathodic Protection on the Corrosion Fatigue Behavior of Carbon Steel in Synthetic Sea Water,* (Tech. Paper) JPT Mar., 283
Patton, J. T., *et al: Prediction of Polymer Flood Performance,* SPEJ Mar., 72
Pauling, J. R. and Horton, E. E.: *Analysis of the Tension Leg Platform,* SPEJ Sept., 285
Pérez-Rosales, C. and Martínez, J. J.: *Structural Characteristics of Granular Porous Media,* (Tech. Paper) SPEJ Dec., 363
Perkins, T. K. and Kazemi, H.: *A Mathematical Model of Thaw-Freeze Cycles Beneath Drilling Rigs and Production Platforms in Cold Regions,* JPT Mar., 381
Perkins, T. K. and Turner, J. B.: *Starting Behavior of Gathering Lines and Pipelines Filled with Gelled Prudhoe Bay Oil,* (Tech. Paper) JPT Mar., 301
Perrine, R. L.: *Oil and Ecology — The Need for a New Outlook,* (Forum) JPT May, 574
Perrine, R. L. and Kyle, C. R.: *Turbulent Dispersion in Porous Materials as Modeled by a Mixing Cell with Stagnant Zone,* SPEJ Mar., 57
Petrauskas, C. and Aagaard, P. M.: *Extrapolation of Historical Storm Data for Estimating Design-Wave Heights,* SPEJ Mar., 23
Petty, G. E., *et al: Developments in Testing from Floating Vessels,* (Tech. Paper) JPT July, 788
Phansalker, R., *et al: Well Completions — A Look Forward,* (Art.) JPT Jan., 128
Pierce, C. I., *et al: Possible Use of Magnetic Fields in Determining Pore Geometry of Porous Media,* (Tech. Paper) SPEJ Sept., 223
Poupon, A., *et al: Log Analysis in Formations With Complex Lithologies,* JPT Aug., 995

R

Raghavan, R. and Marsden, S. S., Jr.: *Theoretical Aspects of Emulsification in Porous Media,* SPEJ June, 153
Ralstin, J., *et al: Impermeation of Porous Media by Forming Hydrates In Situ,* (Tech. Paper) JPT Sept., 1059
Ramey, H. J., Jr.: *Reservoir Engineering in the 70's and 80's,* (Art.) JPT Jan., 33

Ramey, H. J., Jr., and Cobb, W. M.: *A General Pressure Buildup Theory for a Well in a Closed Drainage Area,* JPT Dec., 1493
Ramey, H. J., Jr., *et al: Effect of Temperature Level upon Capillary Pressure Curves,* (Tech. Paper) SPEJ Mar., 13
Raynal, J. C., *et al: Organization of Field Tests and Evaluation of Tricone Bit Performance Using Statistical Analysis and Sonic Logs,* JPT Apr., 506
Raza, S. H.: *Water and Gas Cyclic Pulsing Method for Improved Oil Recovery,* JPT Dec., 1467
Rhoades, V. W., *et al: Effect of Rock Stress on Gas Production from Low-Permeability Reservoirs,* JPT Sept., 1161
Rhodes, D. F., *et al: Radiotracers in Gas-Liquid Transportation Problems — A Field Case,* (Tech. Paper) JPT Aug., 939
Richardson, J. G. and Blackwell, R. J.: *Use of Simple Mathematical Models for Predicting Reservoir Behavior,* JPT Sept., 1145
Rike, J. L.: *Workover and Completion Technology — A Survey,* (Tech. Paper) JPT Nov., 1375
Rivero, R. T.: *Use of the Curvature Method to Determine True Vertical Reservoir Thickness,* JPT Apr., 491
Roberts, S. C. and Westbrook, G. H.: *FM Radio Splinter Frequency as Used in an Alarm-Status and Data-Gathering Supervisory System,* (Tech. Paper) JPT Feb., 169
Robertson, R. W. and Caudle, B. H.: *Permeability Continuity of Laminae in the Calvin Sandstone,* (Tech. Paper) JPT June, 661
Rogers, J. H., *et al: Factors Influencing Mobility Control by Polymer Solutions,* JPT Mar., 391
Roof, J. G.: *Solubility of Sulfur in Hydrogen Sulfide and in Carbon Disulfide at Elevated Temperature and Pressure,* SPEJ Sept., 272
Rough, R. L., *et al: Factors that Predict Fracture Orientation in a Gas Storage Reservoir,* (Tech. Paper) JPT May, 546
Rowe, A. M., Jr., and Kaliappan, C. S.: *Calculation of Pressure-Temperature Phase Envelopes of Multicomponent Systems,* (Tech. Paper) SPEJ Sept., 243
Rush, J. A., Jr., *et al: Technology, Economics, Communication—Keys to Drilling Success in Coming Decades,* (Art.) JPT Jan., 122

S

Sagot, A. M., *et al: Organization of Field Tests and Evaluation of Tricone Bit Performance Using Statistical Analysis and Sonic Logs,* JPT Apr., 506
Sampson, N. N., *et al: Use of External Casing Packers for Zonal Segregation in the Wilmington Oil Field,* (Tech. Paper) JPT Sept., 1101
Sampson, T. J. and Young, F. S., Jr.: *An Analysis of Automatic Closed-Loop Control of Rotary Drive Engines,* (Tech. Paper) JPT Nov., 1305
Satter, A. and Parrish, D. R.: *A Two-Dimensional Analysis of Reservoir Heating by Steam Injection,* SPEJ June, 185
Sawyer, W. K., *et al: Possible Use of Magnetic Fields in Determining Pore Geometry of Porous Media,* (Tech. Paper) SPEJ Sept., 223
Schechter, R. S. and Guin, J. A.: *Matrix Acidization with Highly Reactive Acids,* SPEJ Dec., 390
Schmidt, A. W., *et al: Log Analysis in Formations with Complex Lithologies,* JPT Aug., 995
Schneider, W. C. and Cheatham, J. B., Jr.: *Indentation Analysis for General Shapes of Surface Boundaries and Punch Profiles,* SPEJ Sept., 321
Schroeder, R. L., *et al: The Effect of Cathodic Protection on the Corrosion Fatigue Behavior of Carbon Steel In Synthetic Sea Water,* (Tech. Paper) JPT Mar., 283
Schwalm, H. E.: *Economics of Underground Gas Storage,* (Tech. Paper) JPT Oct., 1221
Scott, P. R. and Cochran, R. A.: *The Growth of Oil Slicks and Their Control By Surface Chemical Agents,* (Tech. Paper) JPT July, 781
Shamir, U.: *Optimal Route for Pipelines in Two-Phase Flow,* (Tech. Paper) SPEJ Sept., 215
Sharp, S. P., *et al: Defoaming Agents for Increased Oil Production Rates of Foamy Crudes — Laboratory Screening Tests and Field Results,* (Tech. Paper) JPT Feb., 233
Sharp, W., *et al: Technology, Economics, Communication — Keys to Drilling Success in Coming Decades,* (Art.) JPT Jan., 122
Sheffield, B. C., *et al: A Magnetic Device to Detect Tension Failures in Oilfield Casing,* (Tech. Paper) JPT Aug., 905
Shell, F. J. and Borst, R. L.: *The Effect of Thinners on the Fabric Of Clay Muds and Gels,* (Tech. Paper) JPT Oct., 1193
Shum, Y. M.: *Use of the Finite-Element Method in the Solution of Diffusion-Convection Equations,* (Tech. Paper) SPEJ June, 139
Simon, R. and Kelsey, F. J.: *The Use of Capillary Tube Networks in Reservoir Performance Studies: I. Equal-Viscosity Miscible Displacements,* (Tech. Paper) SPEJ June, 99
Simpson, J. P.: *Drilling Fluids — Today and Tomorrow,* (Tech. Paper) JPT Nov., 1294
Sinclair, A. R.: *Heat Transfer Effects in Deep Well Fracturing,* JPT Dec., 1484
Sinnokrot, A. A., *et al: Effect of Temperature Level upon Capillary Pressure Curves,* (Tech. Paper) SPEJ Mar., 13
Sklar, I. and Gates, C. F.: *Combustion as a Primary Recovery Process — Midway Sunset Field,* JPT Aug., 981
Slagle, K. A. and Garvin, T.: *Scale-Model Displacement Studies To Predict Flow Behavior During Cementing,* (Tech. Paper) JPT Sept., 1081
Slater, G. E. and Durrer, E. J.: *Adjustment of Reservoir Simulation Models To Match Field Performance,* SPEJ Sept., 295
Slider, H. C.: *A Simplified Method of Pressure Buildup Analysis for a Stabilized Well,* JPT Sept., 1155
Smith, A. E., *et al: Relationship Between Proved Reserves and Exploratory Effort,* (Tech. Paper) JPT June, 671
Smith, R. V.: *The Future of Natural Gas Production Technology,* (Art.) JPT Jan., 45
Snavely, E. S., Jr.: *Chemical Removal of Oxygen from Natural Waters,* (Tech. Paper) JPT Apr., 443
Sprinkle, T. L., *et al: Adverse Influence of Stratification on a Gas Cycling Project,* (Tech. Paper) JPT Feb., 191
Stacy, T. D. and McCain, W. D., Jr.: *A Method of Correlation of High-Temperature, High-Pressure Gas-Solid Adsorption Data,* (Forum) SPEJ Mar., 4
Staggs, H. M. and Herbeck, E. F.: *Reservoir Simulation Models — An Engineering Overview,* (Tech. Paper) JPT Dec., 1428
Standing, M. B.: *Concerning the Calculation of Inflow Performance of Wells Producing from Solution Gas Reservoirs,* (Forum) JPT Sept., 1141
Stanier, H., *et al: Well Completions — A Look Forward,* (Art.) JPT Jan., 128
Startzman, R. A.: *A Further Note on Pulse-Test Interpretation,* (Forum) JPT Sept., 1143
Staub, H. L., *et al: Use of External Casing Packers for Zonal Segregation in the Wilmington Oil Field,* (Tech. Paper) JPT Sept., 1101
Stevens, T. G.: *Current Developments in Petroleum Financing,* (Forum) JPT Feb., 202
Stewart, F. M.: *Oil Drilling Programs, Stimulant to Oil Development,* (Tech. Paper) JPT May, 539
Stokes, W. P.: *North Slope — Construction Criteria for Roads and Facilities,* (Tech. Paper) JPT Oct., 1209
Stoner, M. A., *et al: Network System Transient Calculations by Implicit Method,* (Tech. Paper) SPEJ Dec., 356
Stout, C. M., *et al: Well Completions — A Look Forward,* (Art.) JPT Jan., 128
Streeter, V. L., *et al: Network System Transient Calculations by Implicit Method,* (Tech. Paper) SPEJ Dec., 356
Sutko, A. A. and Myers, G. M.: *The Effect of Nozzle Size, Number, and Extension on the Pressure Distribution Under a Tricone Bit,* (Tech. Paper) JPT Nov., 1299
Sydansk, R. D. and Dreher, K. D.: *On Determining the Continuous Phase in Microemulsions,* (Forum) JPT Dec., 1437

T

Teeuw, D.: *Prediction of Formation Compaction from Laboratory Compressibility Data,* SPEJ Sept., 263

XUM

Thomas, G. W. and Essis B., A. E.: *The Use of Open Flow Potential Test Data in Determining Formation Capacity and Skin Factor,* JPT July, 879
Thompson, J. L., *et al: Technology, Economics, Communication — Keys to Drilling Success in Coming Decades,* (Art.) JPT Jan., 122
Timko, D. J. and Fertl, W. H.: *Relationship Between Hydrocarbon Accumulations and Geopressure and Its Economic Significance,* (Tech. Paper) JPT Aug., 923; discussion, 931
Timmerman, E. H.: *Simulation of Gas Well Performance Using Tabular-Graphical Techniques,* (Tech. Paper) JPT Oct., 1202
Tixier, M. P., *et al: The Production Combination Tool — A New System for Production Monitoring,* (Tech. Paper) JPT May, 603
Torrey, P. D.: *The Early Development of Knowledge About Connate Water,* (Forum) JPT Oct., 1264
Troost, P. J. P. M. and Niko, H.: *Experimental Investigation of Steam Soaking in a Depletion-Type Reservoir,* JPT Aug., 1006
Turner, J. B. and Perkins, T. K.: *Starting Behavior of Gathering Lines and Pipelines Filled with Gelled Prudhoe Bay Oil,* (Tech. Paper) JPT Mar., 301

U

Underringer, C. F., Jr., and Cox, J. B.: *Electronic Computer Production Management — A New Era,* (Tech. Paper) JPT July, 793

V

Vairogs, J., *et al: Effect of Rock Stress on Gas Production From Low-Permeability Reservoirs,* JPT Sept., 1161
Valia, M. P. and Hanks, R. W.: *A Theory of Transitional and Turbulent Flow of Non-Newtonian Slurries Between Flat Parallel Plates,* SPEJ Mar., 52
van Everdingen, A. F. and Meyer, L. J.: *Analysis of Build-up Curves Obtained After Well Treatment,* JPT Apr., 513
Varga, R. S. and Culham, W. E.: *Numerical Methods for Time-Dependent, Nonlinear Boundary Value Problems,* (Tech. Paper) SPEJ Dec., 374

W

Wahl, H. A., *et al: Drag Reduction with a Polymeric Additive in Crude Oil Pipelines,* (Tech. Paper) SPEJ Sept., 229
Walker, C. J., *et al: Oil Vaporization During Steamflooding,* JPT June, 731
Waller, R. L.: *The Northwest Avard Pressure Maintenance Project,* (Tech. Paper) JPT Sept., 1074
Waller, R. L., *et al: Technology, Economics, Communication — Keys to Drilling Success in Coming Decades,* (Art.) JPT Jan., 122
Walstrom, J. E., *et al: A Mathematical Analysis of Errors in Directional Survey Calculations,* (Tech. Paper) JPT Nov., 1368
Walton, E. C., Jr., *et al: A Reservoir Study of the Friendswood Field,* (Tech. Paper) JPT June, 685
Watts, J. W.: *An Iterative Matrix Solution Method Suitable for Anisotropic Problems,* SPEJ Mar., 47
Watts, J. W. and Jones, L. G.: *Estimating Skin Effect in a Partially Completed Damaged Well,* JPT Feb., 249
West, T. J., *et al: Factors Influencing Mobility Control By Polymer Solutions,* JPT Mar., 391
Westbrook, G. H. and Roberts, S. C.: *FM Radio Splinter Frequency as Used in an Alarm-Status and Data-Gathering Supervisory System,* (Tech. Paper) JPT Feb., 169
Wheeler, R., *et al: Technology, Economics, Communication — Keys to Drilling Success in Coming Decades,* (Art.) JPT Jan., 122
Whiteley, M. E. and Williams, B. B.: *Hydrofluoric Acid Reaction with a Porous Sandstone,* SPEJ Sept., 306
Whorton, L. P.: *Petroleum Engineering Research — Evolution and State of the Art,* (Art.) JPT Jan., 115
Williams, B. B. and Nierode, D. E.: *Characteristics of Acid Reaction in Limestone Formations,* SPEJ Dec., 406
Williams, B. B. and Whiteley, M. E.: *Hydrofluoric Acid Reaction with a Porous Sandstone,* SPEJ Sept., 306
Wise, R. A.: *A Review of Health and Safety of Deep Divers,* (Tech. Paper) JPT Mar., 294
Woertz, B. B.: *Selective Solvent for Purifying Natural Gas,* JPT Apr., 483
Vapor-Liquid Equilibrium Ratios (K-Values) of Light Hydrocarbons at Reservoir Conditions, SPEJ June, 176
Wolfe, J. F., *et al: Defoaming Agents for Increased Oil Production Rates of Foamy Crudes — Laboratory Screening Tests and Field Results,* (Tech. Paper) JPT Feb., 233
Wray, G. Q., *et al: Developments in Testing from Floating Vessels,* (Tech. Paper) JPT July, 788
Wright, A. C., *et al: Use of External Casing Packers for Zonal Segregation in the Wilmington Oil Field,* (Tech. Paper) JPT Sept., 1101
Wu, C. H. and Fulton, P. F.: *Experimental Simulation of the Zones Preceding the Combustion Front of an In-Situ Combustion Process,* SPEJ Mar., 38
Wurl, T. M. and Doyle, R. E.: *Stream Channel Concept Applied to Waterflood Performance Calculations For Multiwell, Multizone, Three-Component Cases,* (Tech. Paper) JPT Mar., 373
Wylie, E. B., *et al: Network System Transient Calculations by Implicit Method,* (Tech. Paper) SPEJ Dec., 356
Wytrychowski, I. M., *et al: A Numerical Simulation of Kaybob South Gas Cycling Projects,* (Tech. Paper) JPT Oct., 1253

Y

Yamamoto, R. H., *et al: Compositional Reservoir Simulator for Fissured Systems — The Single Block Model,* (Tech. Paper) SPEJ June, 113
Yoelin, S. D.: *The TM Sand Steam Stimulation Project,* JPT Aug., 987
Young, F. S., Jr., and Sampson, T. J.: *An Analysis of Automatic Closed-Loop Control of Rotary Drive Engines,* (Tech. Paper) JPT Nov., 1305

Subject Index

A

Acetic acid: reaction characteristics in limestone formations, SPEJ Dec., 406
Acidizing: acid-mutual solvent method: stimulation of sandstone formations, (Tech. Paper) JPT May, 551
buildup curve analysis after well treatment, JPT Apr., 513
matrix: with highly reactive acids, SPEJ Dec., 390
sandstone: hydrofluoric acid reaction, SPEJ Sept., 306
Acids: highly reactive: matrix acidization with, SPEJ Dec., 390
Acoustic velocity logging: use in organization of field tests and evaluation of tricone bit performance, JPT Apr., 506
Acquisition: data: for optimized drilling, (Tech. Paper) JPT Nov., 1285
Additives: mobility control: polymer flood performance predictions, SPEJ Mar., 72
polymeric: used to reduce drag in crude oil pipelines, (Tech. Paper) SPEJ Sept., 229
stimulation of sandstone formations: acid-mutual solvent method, (Tech. Paper) JPT May, 551
Adsorption: gas-solid: method of correlation of high-temperature, high-pressure data, (Forum) SPEJ Mar., 4

Alaska: cementing materials for cold environments, (Tech. Paper) JPT Oct., 1215
model for continental oil supply and distribution, (Tech. Paper) JPT Sept., 1089
North Slope: competitive bidding in high-risk situations, (Tech. Paper) JPT June, 641
mathematical model of thaw-freeze cycles beneath drilling rigs and production platforms, JPT Mar., 381
Prudhoe Bay field: construction criteria for roads and facilities, (Tech. Paper) JPT Oct., 1209
some aspects of petroleum development, (Art.) JPT Jan., 19
Prudhoe Bay oil: starting behavior of gathering lines and pipelines filled with, (Tech. Paper) JPT Mar., 301
Anadarko Basin: oil men: discuss keys to drilling success in coming decades, (Art.) JPT Jan., 122
Anisotropy: iterative matrix solution method suitable for anisotropic problems, SPEJ Mar., 47
rock strength: role in natural hole deviation, JPT Nov., 1313
Annulus: optimum flow conditions through, (Forum) JPT Apr., 447
Aquifers: finite systems: simplified approach to water influx calculations, (Tech. Paper) JPT July, 814
permeable: physics of fine-particle movement through, (Tech. Paper) SPEJ Dec., 367
Arctic: cementing materials for cold environments, (Tech. Paper) JPT Oct., 1215
depths to which frozen gas fields may be expected, (Tech. Paper) JPT Apr., 419
industrial environment: some aspects of petroleum development in Northern Alaska, (Art.) JPT Jan., 19
North Slope, Alaska: construction criteria for roads and facilities, (Tech. Paper) JPT Oct., 1209
Automation: closed-loop control: rotary drive engines, (Tech. Paper) JPT Nov., 1305
petroleum development in Northern Alaska, (Art.) JPT Jan., 19
production operations: electronic computer; a new era, (Tech. Paper) JPT July, 793
of the future, (Art.) JPT Jan., 27

B

Bidding: competitive: in high-risk situations, (Tech. Paper) JPT June, 641
Bits: design: role of rock strength anisotropy, JPT Nov., 1313
drilling: statistical evaluation of field performance, JPT Apr., 506
rotary rock: selection and performance, (Tech. Paper) JPT Nov., 1359
rock-tooth interaction for conical bit teeth, SPEJ June, 162
tricone: effect of nozzle size, number, and extension on pressure distribution under bit, (Tech. Paper) JPT Nov., 1299
Blanco Mesaverde field: *See* New Mexico
Blowouts: selected items of interest in drilling technology: SPE distinguished lecture, (Art.) JPT July, 857
Boreholes: stability: drilling fluid problem, (Tech. Paper) JPT Nov., 1294
Bottom-hole pressure: distribution under tricone bit: effect of nozzle size, number and extension, (Tech. Paper) JPT Nov., 1299
Boundary conditions: general shapes of surfaces and punch profiles, SPEJ Sept., 321
time-dependent, nonlinear problems: numerical methods for, (Tech. Paper) SPEJ Dec., 374
Buildup curves: *See* Pressure buildup

C

California: field tests: chemical method for formation plugging, (Tech. Paper) JPT May, 559
Huntington Beach offshore field: TM sand steam stimulation project, JPT Aug., 987
Midway Sunset field: combustion as a primary recovery process, JPT Aug., 981
polymer flood: prediction of performance, SPEJ Mar., 72
waterflood predictions: empirical approach, (Tech. Paper) JPT May, 565
Wilmington field: use of external casing packers for zonal segregation, (Tech. Paper) JPT Sept., 1101
Calvin sandstone: *See* Oklahoma
Canada: cementing materials for cold environments (Tech. Paper) JPT Oct., 1215
Kaybob South field: numerical simulation of gas cycling projects, (Tech. Paper) JPT Oct., 1253
model for continental oil supply and distribution, (Tech. Paper) JPT Sept., 1089
Capacity: formation: use of open flow potential test data in determining, JPT July, 879
Capillary flow: use of tube networks in reservoir performance studies: equal-viscosity miscible displacements, (Tech. Paper) SPEJ June, 99
Capillary pressure: curves: effect of temperature level upon, (Tech. Paper) SPEJ Mar., 13
use of vertical equilibrium in two-dimensional simulation of three-dimensional reservoir performance, SPEJ Mar., 63
Carbon dioxide: successful stimulation of a thick, low-pressure, water-sensitive gas reservoir by pseudo-limited entry, (Tech. Paper) JPT Feb., 185
test at Mead-Strawn field, (Tech. Paper) JPT Apr., 431
Carbon disulfide: sulfur solubility: elevated temperature and pressure, SPEJ Sept., 272
Carbon logging: theoretical and laboratory evaluation, (Tech. Paper) SPEJ June, 129; discussion, 137
Case histories: *See* Field case history
Cased hole: thermal neutron decay time logs: quantitative interpretation, JPT June, 743 and 756
Casing: cold environments: cementing materials, (Tech. Paper) JPT Oct., 1215
external packers: use for zonal segregation in the Wilmington oil field, (Tech. Paper) JPT Sept., 1101
failure: magnetic device to detect, (Tech. Paper) JPT Aug., 905
study of Cedar Creek anticline, (Tech. Paper) JPT June, 676
problems caused by ground subsidence: equipment and methods for correcting, (Tech. Paper) JPT June, 654
Cathodic protection: effect on corrosion fatigue behavior of carbon steel in synthetic sea water, (Tech. Paper) JPT Mar., 283
Cedar Creek anticline: *See* Montana and North Dakota
Cementing: composition: materials for cold environments, (Tech. Paper) JPT Oct., 1215
drilling technology: SPE distinguished lecture, (Art.) JPT July, 857
scale-model displacement studies to predict flow behavior, (Tech. Paper) JPT Sept., 1081
well completions: a look forward, (Art.) JPT Jan., 128
Channeling: stream concept: applied to waterflood performance calculations for multiwell, multizone, three-component cases, (Tech. Paper) JPT Mar., 373
Chemicals: formation plugging method, (Tech. Paper) JPT May, 559
surface agent: control of oil slick growth, (Tech. Paper) JPT July, 781
Cheniere Cadeville unit: *See* Louisiana
Clay: muds: effect of thinners on fabric, (Tech. Paper) JPT Oct., 1193
Collisons: at sea: effect of admiralty law, (Tech. Paper) JPT Mar., 276
Colorado: comparison of conventional core data, well logging analyses and sidewall samples, (Tech. Paper) JPT Dec., 1409
Dragon Trail unit: successful stimulation of a thick, low-pressure, water-sensitive gas reservoir by pseudo-limited entry, (Tech. Paper) JPT Feb., 185
field tests: chemical method for formation plugging, (Tech. Paper) JPT May, 559
Rulison field area: sandstone continuity in the Mesaverde formation, (Tech. Paper) JPT Aug., 911
Uintah Basin: section uses TIC concept to advise citizens of earthquake study, (Art.) JPT Mar., 340
Combustion: front: experimental simulation of zones preceding; in-situ combustion process, SPEJ Mar., 38
in-situ: a primary recovery process in Midway Sunset field, JPT Aug., 981
kinetics: methane oxidation inside sandstone matrices, (Tech. Paper) SPEJ June, 145
Completions: *See* Well completions
Completion practice: *See* Well completions
Communications: a key to drilling success in coming decades, (Art.) JPT Jan., 122
Compaction: abnormal pressures: permeability considerations in generation of, (Tech. Paper) SPEJ Sept., 236

XUM

formation: prediction from laboratory compressibility data, SPEJ Sept., 263
Competition: bidding in high-risk situations, (Tech. Paper) JPT June, 641
Compressibility: laboratory data: prediction of formation compaction from, SPEJ Sept., 263
pore: predicting for reservoir rocks, (Forum) SPEJ Dec., 340
Compression: studies: model for evaluating gas field gathering system design, (Tech. Paper) JPT Sept., 1067
Compressors: injection: operational problems with 8000-psig type, (Tech. Paper) JPT Apr., 424
Computer: analysis: relationship between proved reserves and exploratory effort, (Tech. Paper) JPT June, 671
CDC 6600: use in compositional reservoir simulator for fissured systems, (Tech. Paper) SPEJ June, 113
digital: iterative matrix solution method suitable for anisotropic problems, SPEJ Mar., 47
used with streamline model for secondary recovery, (Tech. Paper) SPEJ Mar., 7
electronic: production management — a new era, (Tech. Paper) JPT July 793
IBM 360/50: pulse-test interpretation, (Forum) JPT Sept., 1143
IBM 360/67: calculation of network system transient by implicit method, (Tech. Paper) SPEJ Dec., 356
model: predicting optimum shut-in of wells in peripheral and line drive waterfloods, JPT Apr., 497
use in matching history and predicting performance of low permeability gas wells, (Tech. Paper) JPT Dec., 1415
programming: numerical simulation of solution gas drive reservoirs; method for controlling gas percolation, SPEJ Mar., 85
programs: CORIBAND for analysis of complex lithologies, JPT Aug., 995
generalized porosity-lithology interpretation of neutron, density and sonic logs, (Tech. Paper) JPT Feb., 239
optimal route for pipelines in two-phase flow, (Tech. Paper) SPEJ Sept., 215
processing thermal neutron decay time logs; quantitative interpretation, JPT June, 756
solution time: for time-dependent, nonlinear boundary value problems, (Tech. Paper) SPEJ Dec., 374
Univac 1108: model for North American oil supply and distribution, (Tech. Paper) JPT Sept., 1089
stream channel concept applied to waterflood performance calculations for multiwell, multizone, three-component cases, (Tech. Paper) JPT Mar., 373
use in reservoir engineering in the 70's and 80's, (Art.) JPT Jan., 33
Condensates: gas cycling: adverse influence of stratification, (Tech. Paper) JPT Feb., 191
Conduits: *See* Tubing
Connate water: *See* Interstitial water
Construction: criteria: roads and facilities for North Slope, Alaska, (Tech. Paper) JPT Oct., 1209
Continuity equation: solving multidimensional miscible displacement equations, SPEJ Sept., 277
Controls: automatic closed-loop: analysis; rotary drive engines, (Tech. Paper) JPT Nov., 1305
growth of oil slicks: surface chemical agents, (Tech. Paper) JPT July, 781
mobility: by polymer solutions; factors influencing, JPT Mar., 391
water pollution: government views, (Forum) JPT July, 829
Convection: combined free and forced: within porous media, SPEJ Dec., 399
diffusion equation: quantitative evaluation of truncation error, SPEJ Sept., 315
use of finite-element method in the solution, (Tech. Paper) SPEJ June, 139
Convergence pressure: light hydrocarbons at reservoir conditions: vapor-liquid equilibrium ratios, SPEJ June, 176
multicomponent systems: calculation of pressure-temperature systems, (Tech. Paper) SPEJ Sept., 243
Core analysis: formation evaluation goals, (Art.) JPT Jan., 55
Mead-Strawn field: carbon dioxide pilot test, (Tech. Paper) JPT Apr., 431
reservoir engineering in the 70's and 80's, (Art.) JPT Jan., 33
stratification: adverse influence on a gas cycling project, (Tech. Paper) JPT Feb., 191
Cores: conventional and sidewall samples: comparison with well logging analyses, (Tech. Paper) JPT Dec., 1409
Coring: improper formation sampling: leads to improper selection of gravel size, (Tech. Paper) JPT Dec., 1403
natural gas wells, future of technology, (Art.) JPT Jan., 47
Correlations: data from conventional core data, well logging analyses and sidewall samples, (Tech. Paper) JPT Dec., 1409
empirical: waterflood predictions, (Tech. Paper) JPT May, 565
method of: high-temperature, high-pressure gas-solid adsorption data, (Forum) SPEJ Mar., 4
porosity-permeability changes: matrix acidization with highly reactive acids, SPEJ Dec., 390
pressure: invaluable tool in monitoring Means San Andres waterflood, (Tech. Paper) JPT Dec., 1421
vapor-liquid equilibrium ratios: light hydrocarbons at reservoir conditions, SPEJ June, 176
Corrosion: fatigue behavior: effect of cathodic protection of carbon steel in synthetic sea water, (Tech. Paper) JPT Mar., 283
production operations of the future, (Art.) JPT Jan., 27
Costs: development drilling: stochastic inventory model for scheduling, (Tech. Paper) SPEJ Sept., 252
energy: for next 20 years, (Art.) JPT Jan., 13
optimizing for drilling: acquisition and analysis of data, (Tech. Paper) JPT Nov., 1285
pipelines: optimal route; two-phase flow, (Tech. Paper) SPEJ Sept., 215
pricing: model for North American oil supply and distribution, (Tech. Paper) JPT Sept., 1089
zonal segregation: use of external casing packers in the Wilmington oil field, (Tech. Paper) JPT Sept., 1101
Crude oils: drag reduction with a polymeric additive in pipelines, (Tech. Paper) SPEJ Sept., 229
foamy: defoaming agents for increased oil production rates; laboratory screening tests and field results, (Tech. Paper) JPT Feb., 233
gelled Prudhoe Bay: starting behavior of gathering lines and pipelines filled with, (Tech. Paper) JPT Mar., 301
Curvature method: for determining true vertical reservoir thickness. JPT Apr., 491
Custody transfer: *See* LACT
Cycling: *See* Gas cyling

D

Data: acquisition and analysis: for optimizing drilling, (Tech. Paper) JPT Nov., 1285
error: mathematical analysis for directional survey calculations, (Tech. Paper) JPT Nov., 1368
gathering system: FM radio splinter frequency as used in an alarm status, (Tech. Paper) JPT Feb., 169
input: critical for reservoir simulation models, (Tech. Paper) JPT Dec., 1428
storm: extrapolation of historical information for estimating design-wave heights, SPEJ Mar., 23
Density logging: porosity-lithology interpretation: computer-oriented generalized program, (Tech. Paper) JPT Feb., 239
Depletion: reservoir: experimental investigation of steam soaking, JPT Aug., 1006
Design: bits: selection and performance of rotary rock types, (Tech. Paper) JPT Nov., 1359
estimating wave heights: extrapolation of historical storm data, SPEJ Mar., 23
gas field gathering system: efficient model for evaluating, (Tech. Paper) JPT Sept., 1067
pumps: positive displacement; practical hydraulics for high-pressure waterflood installations, (Tech. Paper) JPT Feb., 173
roads and facilities: construction criteria for North Slope, Alaska, (Tech. Paper) JPT Oct., 1209
Developments: additional needs: workover and completion technology, (Tech. Paper) JPT Nov., 1375
bits: selection and performance of rotary rock types, (Tech. Paper) JPT Nov., 1359
drilling: stochastic inventory model for scheduling, (Tech. Paper) SPEJ Sept., 252
early: knowledge of connate water, (Forum) JPT Oct., 1264
micellar solutions to improve water injectivity, (Tech. Paper) JPT May, 614

offshore: admiralty law and its effect, (Tech. Paper) JPT Mar., 276
oil: drilling programs are stimulant, (Tech. Paper) JPT May, 539
petroleum: financing, (Forum) JPT Feb., 202
some aspects in Northern Alaska, (Art.) JPT Jan., 19
testing from floating vessels, (Tech. Paper) JPT July, 788
Diffusion: convection equation: use of finite-element method in the solution, (Tech. Paper) SPEJ June, 139
numerical: quantitative evaluation of truncation error, SPEJ Sept., 315
Directional surveys: calculations: mathematical analysis of errors, (Tech. Paper) JPT Nov., 1368
interpretation: use of curvature method to determine true vertical reservoir thickness, JPT Apr., 491
Dispersion: physical: improved numerical technique for solving multidimensional miscible displacement equations, SPEJ Sept., 277
turbulent: modeled in porous materials by a mixing cell with stagnant zone, SPEJ Mar., 57
Displacement efficiency: gas: injection for upstructure drainage, (Tech. Paper) JPT Mar., 361
Displacement mechanism: *See also* types of displacement
scale model to predict flow behavior during cementing, (Tech. Paper) JPT Sept., 1081
soluble oils: use for oil recovery, JPT Dec., 1475
Dissolved-gas drive: *See* Solution-gas drive
Distillation: steam: oil vaporization, JPT June, 731
Distinguished lecture: drilling technology: selected items of interest, (Art.) JPT July, 857
Distribution: gas: economics of underground storage, (Tech. Paper) JPT Oct., 1221
oil: model for North American, (Tech. Paper) JPT Sept., 1089
Dragon Trail unit: *See* Colorado
Drag reduction: crude oil pipelines; with a polymeric additive, (Tech. Paper) SPEJ Sept., 229
Drainage: area: closed; general pressure buildup theory for a well, JPT Dec., 1493
capillary pressure curves: effect of temperature level, (Tech. Paper) SPEJ Mar., 13
roads and facilities: construction criteria for North Slope, Alaska, (Tech. Paper) JPT Oct., 1209
shapes: estimating from reservoir limit tests, JPT Oct., 1266
upstructure: gas injection for, (Tech. Paper) JPT Mar., 361
Drill bit: *See* Bits and Drilling: bits
Drilling: *See also* Offshore drilling
bits: conical teeth; rock/bit-tooth interaction, SPEJ June, 162
statistical analysis and sonic log application in evaluating field performance, JPT Apr., 506
influence of Little Buffalo Basin Tensleep heterogeneity, (Tech. Paper) JPT Feb., 161
natural hole deviation: role of rock strength anisotropy, JPT Nov., 1313
offshore challenge: water, wells and weather, (Art.) JPT Mar., 317
optimization: acquisition and analysis of data, (Tech. Paper) JPT Nov., 1285
programs: stimulant to oil development, (Tech. Paper) JPT May, 539
rock indentation analysis: general shapes of surface boundaries and punch profiles, SPEJ Sept., 321
rotary drive engines: analysis of automatic closed-loop control, (Tech. Paper) JPT Nov., 1305
selected items of interest in technology: SPE distinguished lecture, (Art.) JPT July, 857
stochastic inventory model for scheduling development, (Tech. Paper) SPEJ Sept., 252
technology, economics, communications: keys to success in coming decades, (Art.) JPT Jan., 122
tricone bit: effect of nozzle size, number and extension on pressure distribution, (Tech. Paper) JPT Nov., 1299
Drilling fluids: scale-model displacement studies: predict flow behavior during cementing, (Tech. Paper) JPT Sept., 1081
thinners: effect on fabric of muds and gels, (Tech. Paper) JPT Oct., 1193
today and tomorrow, (Tech. Paper) JPT Nov., 1294
Drilling rigs: as vessel in admiralty law, (Tech. Paper) JPT Mar., 276
mathematical model: thaw-freeze cycles beneath rigs in cold regions, JPT Mar., 381
Dual mineral method: neutron- and density-log analysis in formations with complex lithologies, JPT Aug., 995

E

Earth: crust: mathematical model of thaw-freeze cycles beneath drilling rigs and production platforms in cold regions, JPT Mar., 381
Earthquake: study: Uintah Basin Section uses TIC concept to advise citizens, (Art.) JPT Mar., 340
East Velma field: *See* Oklahoma
Echo sounding: afterflow measurement: short-term buildup testing, (Tech. Paper) JPT July, 800
Ecology: and oil: need for a new outlook, (Forum) JPT May, 574
Economics: drilling technology: SPE distinguished lecture, (Art.) JPT July, 857
FM radio splinter frequency: used in an alarm-status and data-gathering supervisory system, (Tech. Paper) JPT Feb., 169
gas storage: underground, (Tech. Paper) JPT Oct., 1221
key to drilling success in coming decades, (Art.) JPT Jan., 122
of defoaming: increasing oil production rates of foamy crudes; laboratory screening tests and field results, (Tech. Paper) JPT Feb., 233
offshore challenge: water, wells and weather, (Art.) JPT Mar., 317
oil drilling programs: stimulant to oil development, (Tech. Paper) JPT May, 539
significance of relationship between hydrocarbon accumulation and geopressure, (Tech. Paper) JPT Aug., 923; discussion, 931
Education: *See* Engineering education
Efficiency: recovery: by water injection in Friendswood field, Texas, (Tech. Paper) JPT June, 685
Electric logging: *See* Well logging
Electron microscope: thinners: determining effect on fabric of clay muds and gels, (Tech. Paper) JPT Oct., 1193
Elements: water and weather: offshore challenge, (Art.) JPT Mar., 317
Emulsions: micro type: comments on determining the continuous phase, (Forum) JPT Dec., 1437
porous media: theoretical aspects, SPEJ June, 153
Energy: needs: first ten of next hundred years, (Art.) JPT Jan., 11
policy studies: long-range planning 20 years ahead, (Art.) JPT Jan., 13
supply: can it survive the space age?, (Art.) JPT Jan., 63
synthetic: production operations of the future, (Art.) JPT Jan., 27
Engineering: overview: reservoir simulation models, (Tech. Paper) JPT Dec., 1428
reservoir: and polywater, (Forum) JPT Oct., 1263
in 70's and 80's, (Art.) JPT Jan., 33
Engineering education: environmental science: need for a new outlook on oil and ecology, (Forum) JPT May, 574
Environment: can petroleum engineering survive the space age?, (Art.) JPT Jan., 63
cold: cementing materials for, (Tech. Paper) JPT Oct., 1215
for first ten of next hundred years, (Art.) JPT Jan., 11
industrial: Arctic; some aspects of petroleum development in Northern Alaska, (Art.) JPT Jan., 19
oil and ecology: need for new outlook, (Forum) JPT May, 574
physical: production operations of the future, (Art.) JPT Jan., 27
undersea: review of health and safety of deep divers, (Tech. Paper) JPT Mar., 294
Equilibrium: vertical: use in two-dimensional simulation of three-dimensional reservoir performance, SPEJ Mar., 63
Equilibrium ratios: multicomponent systems: calculation of pressure-temperature phase envelopes, (Tech. Paper) SPEJ Sept., 243
vapor-liquid: light hydrocarbons at reservoir conditions, SPEJ June, 176
Equipment: *See also* names of various types
bits: conical teeth; rock/bit-tooth interaction, SPEJ June, 162

XUM

casing strings and wellheads: solution to ground subsidence problems, (Tech. Paper) JPT June, 654
compaction cell: prediction of formation compaction from laboratory compressibility data, SPEJ Sept., 263
floating vessels: developments in testing from, (Tech. Paper) JPT July, 788
magnetic device: used to detect tension failures in oilfield casing, (Tech. Paper) JPT Aug., 905
moored barge: experimental and theoretical study of motion, (Tech. Paper) SPEJ Sept., 206
offshore platforms: effect of cathodic protection on corrosion fatigue behavior of carbon steel, (Tech. Paper) JPT Mar., 283
production combination tool: new system for production monitoring, (Tech. Paper) JPT May, 603
pumps: positive displacement; practical hydraulics for high-pressure waterflood installations, (Tech. Paper) JPT Feb., 173
spectrometer: theoretical and laboratory evaluation of carbon logging, (Tech. Paper) SPEJ June, 129; discussion, 137
tension leg platform: analysis of, SPEJ Sept., 285
workover and completion: technological survey, (Tech. Paper) JPT Nov., 1375
Evaluations: *See also* Field tests, Formation evaluation, and Laboratory studies
bits: performance of tricone type using statistical analysis and sonic logs, JPT Apr., 506
conventional core data, well logging analyses and sidewall samples: comparison, (Tech. Paper) JPT Dec., 1409
exploratory effort: relation to proved reserves, (Tech. Paper) JPT June, 671
gas field gathering system design: an efficient model for, (Tech. Paper) JPT Sept., 1067
Means San Andres unit waterflood, (Tech. Paper) JPT Dec., 1421
micellar solutions to improve water injectivity, (Tech. Paper) JPT May, 614
truncation error: numerical diffusion, SPEJ Sept., 315
Exploration: model for predicting proved reserves, (Tech. Paper) JPT June, 671

F

Fatigue: behavior: effect of cathodic protection on corrosion of carbon steel in synthetic sea water, (Tech. Paper) JPT Mar., 283
Federal regulations: water-pollution control, (Forum) JPT July, 829
Field tests: *See also* Evaluation(s)
Field case history: Cedar Creek Anticline, Montana and North Dakota: casing failure study, (Tech. Paper) JPT June, 676
Huntington Beach offshore field, California: TM sand steam stimulation project, JPT Aug., 987
Little Buffalo Basin field, Wyoming: influence of Tensleep heterogeneity on drilling and secondary recovery, (Tech. Paper) JPT Feb., 161
Louisiana and Texas, Gulf Coast: relationship between hydrocarbon accumulation and geopressure and its economic significance, (Tech. Paper) JPT Aug., 923; discussion, 931
Midway Sunset field, California: combustion as a primary recovery process, JPT Aug., 981
North Government Wells field, Texas: field test of in-situ combustion process in a near-depleted water drive reservoir, (Tech. Paper) JPT Feb., 153
Northwest Avard field, Oklahoma: pressure maintenance project, (Tech. Paper) JPT Sept., 1074
radiotracers in gas-liquid transportation problems, (Tech. Paper) JPT Aug., 939
reservoir simulation models: engineering overview, (Tech. Paper) JPT Dec., 1428
Field tests: *See also* Applications
acid-mutual solvent method: stimulation of sandstone formations, (Tech. Paper) JPT May, 551
automatic closed-loop control: rotary drive engines, (Tech. Paper) JPT Nov., 1305
carbon dioxide: Mead-Strawn field, (Tech. Paper) JPT Apr., 431
defoaming agents: for increased oil production rates of foamy crudes, (Tech. Paper) JPT Feb., 233
drag reduction: polymeric additive in crude oil pipelines, (Tech. Paper) SPEJ Sept., 229
formation plugging: chemical method, (Tech. Paper) JPT May, 559
gas cycling: adverse influence of stratification, (Tech. Paper) JPT Feb., 191
gas injection: for upstructure drainage, (Tech. Paper) JPT Mar., 361
gas-well performance: simulation using tabular-graphical techniques, (Tech. Paper) JPT Oct., 1202
gravel size: improper formation sampling leads to improper selection, (Tech. Paper) JPT Dec., 1403
ground subsidence: solution to problems in casing strings and wellheads, (Tech. Paper) JPT June, 654
growth of oil slicks: control by surface chemical agents, (Tech. Paper) JPT July, 781
in-situ combustion process: in near-depleted water drive reservoir, (Tech. Paper) JPT Feb., 153
magnetic device: to detect tension failure in oilfield casing, (Tech. Paper) JPT Aug., 905
micellar solutions: development and evaluation to improve water injectivity, (Tech. Paper) JPT May, 614
model for evaluating gas field gathering system design, (Tech. Paper) JPT Sept., 1067
moored barge: study of motion, (Tech. Paper) SPEJ Sept., 206
natural hole deviation: role of rock strength anisotropy, JPT Nov., 1313
organization of: evaluation of tricone bit performance using statistical analysis and sonic logs, JPT Apr., 506
petroleum engineering: evolution and state of the art, (Art.) JPT Jan., 115
reservoir simulation models: adjustment to match field performance, SPEJ Sept., 295
waterflooding: stratified; simulation by pseudo relative permeability curves, (Tech. Paper) JPT July, 805
stream channel concept applied to performance calculations for multiwell, multizone, three-component cases, (Tech. Paper) JPT Mar., 373
wellbore transmissibility: from afterflow-dominated pressure buildup data, JPT July, 863
Financing: *See also* Investments
petroleum: current developments, (Forum) JPT Feb., 202
Finite difference solutions: numerical diffusion: quantitative evaluation of truncation error, SPEJ Sept., 315
Finite element method: use in solution of diffusion-convection equations, (Tech. Paper) SPEJ June, 139
Fissured systems: compositional reservoir simulator: single-block model, (Tech. Paper) SPEJ June, 113
Floating vessels: developments in testing from, (Tech. Paper) JPT July, 788
Flow capacity: effects of damage in partially completed wells, JPT Feb., 249
Flowmeter: production monitoring: new system uses production combination tool, (Tech. Paper) JPT May, 603
Flow properties: during cementing: scale-model displacement studies to predict, (Tech. Paper) JPT Sept., 1081
Flow tests: analysis: method for determining static pressure of a well from buildup data, JPT May, 621
multiple-rate: determining formation capacity and skin factor, JPT July, 879
Fluid flow: *See also* Specific applications such as Gas injection, Displacement mechanisms, Waterflooding, etc.
behavior of solutions of various polymers, JPT Mar., 391
crude oil pipelines: drag reduction with a polymeric additive, (Tech. Paper) SPEJ Sept., 229
during cementing: scale-model displacement studies to predict, (Tech. Paper) JPT Sept., 1081
gas: numerical methods for time-dependent, nonlinear boundary value problems, (Tech. Paper) SPEJ Dec., 374
miscible displacement: improved numerical technique for solving multidimensional equations, SPEJ Sept., 277
oil-water relative permeability relationships: effect of rock wettability, JPT July, 873
open flow potential test: use in determining formation capacity and skin factor, JPT July, 879
pipelines: radiotracers in gas-liquid transportation problems, (Tech. Paper) JPT Aug., 939
porous media: permeability continuity of laminae in the Calvin sandstone, (Tech. Paper) JPT June, 661
possible use of magnetic fields in determining pore geometry, (Tech. Paper) SPEJ Sept., 223

use of capillary tube networks in reservoir performance studies of equal-viscosity miscible displacements, (Tech. Paper) SPEJ June, 99
wall effects on viscosity, (Forum) JPT Oct., 1263
streamline model for secondary recovery, (Tech. Paper) SPEJ Mar., 7
through tubing and annular spaces: optimum conditions, (Forum) JPT Apr., 447
two-phase: comparison of calculated with experimental imbibition relative permeability, SPEJ Dec., 419
optimal route for pipelines, (Tech. Paper) SPEJ Sept., 215
water influx: simplified approach to calculations for finite aquifer systems, (Tech. Paper) JPT July, 814
Fluid injection: *See* Gas injection, Miscible displacement, Thermal recovery of oil, and Waterflooding.
Fluid mechanics: theory of transitional and turbulent flow of non-Newtonian slurries between flat parallel plates, SPEJ Mar., 52
Foams: defoaming agents: increasing oil production rates of crudes; laboratory screening tests and field results, (Tech. Paper) JPT Feb., 233
Forecasts: developments in petroleum financing, (Forum) JPT Feb., 202
drilling: technology, economics, communications; keys to success in coming decades, (Art.) JPT Jan., 122
energy: long-range planning 20 years ahead, (Art.) JPT Jan., 13
first ten of next hundred years, (Art.) JPT Jan., 11
formation evaluation goals, (Art.) JPT Jan., 55
natural gas: production technology, (Art.) JPT Jan., 45
trends in supply and demand, (Art.) JPT Jan., 41
petroleum engineering: can it survive the space age?, (Art.) JPT Jan., 63
producing operations of the future, (Art.) JPT Jan., 27
reservoir engineering in the 70's and 80's, (Art.) JPT Jan., 33
well completions, (Art.) JPT Jan., 128
Formation damage: partially completed well: estimating skin effect, JPT Feb., 249
stimulation of sandstone formations: acid-mutual solvent method, (Tech. Paper) JPT May, 551
sulfur plugging and its removal, SPEJ Sept., 272
Formation evaluation: *See also* Core analysis, Pressure buildup, and Well logging
compaction: prediction from laboratory compressibility data, SPEJ Sept., 263
goals, (Art.) JPT Jan., 55
log analysis: formations with complex lithologies, JPT Aug., 995
pressure buildup theory: well in a closed drainage area, JPT Dec., 1493
quantitative interpretation: thermal neutron decay time logs, JPT June, 743 and 756
Formation fractures: buildup curve analysis after well treatment, JPT Apr., 513
compositional reservoir simulator: single block model, (Tech. Paper) SPEJ June, 113
gas storage reservoirs: factors that predict orientation, (Tech. Paper) JPT May, 546
water and gas cyclic pulsing: improved oil recovery method, JPT Dec., 1467
Formation fracturing: deep wells: heat transfer effects, JPT Dec., 1484
gradients in waterfloods of low-permeability, partially depleted zones, (Tech. Paper) JPT June, 727
successful stimulation of a thick, low-pressure, water-sensitive gas reservoir by pseudolimited entry, (Tech. Paper) JPT Feb., 185
Formation thickness: true vertical: use of curvature method to determine, JPT Apr., 491
Formic acid: reaction characteristics in limestone formations, SPEJ Dec., 406
Fractured reservoirs or fracturing: *See* Formation fractures and Formation fracturing
Fractures: *See also* Formation fractures
Fracturing fluids: CO_2 and KCL in H_2O: successful stimulation of a thick, low-pressure, water-sensitive gas reservoir by pseudolimited entry, (Tech. Paper) JPT Feb., 185
ultraviscous: heat transfer effects in deep well fracturing, JPT Dec., 1484
Frequency: FM radio splinter: used in an alarm-status and data-gathering supervisory system, (Tech. Paper) JPT Feb., 169
Friendswood field: *See* Texas
Fugacity: estimation: method of correlation of high-temperature, high-pressure gas-solid adsorption data, (Forum) SPEJ Mar., 4
Functions: pressure: analysis of buildup curves obtained after well treatment, JPT Apr., 513

G

Galerkin method: numerical solution for time-dependent, nonlinear boundary value problems, (Tech. Paper) SPEJ Dec., 374
Gamma rays: carbon logging: theoretical and laboratory evaluation, (Tech. Paper) SPEJ June, 129; discussion, 137
Gas cap drive: Northwest Avard field, Oklahoma, (Tech. Paper) JPT Sept., 1074
Gas condensates: *See* Condensates
Gas cyclic pulsing: improved oil recovery method, JPT Dec., 1467
Gas cycling: Kaybob South projects: numerical simulation, (Tech. Paper) JPT Oct., 1253
operational problems with 8000-psig injection compressors, (Tech. Paper) JPT Apr., 424
stratification: adverse influence on a project, (Tech. Paper) JPT Feb., 191
Gas fields: frozen: depths to which gas hydrates may be expected, (Tech. Paper) JPT Apr., 419
simulation: model for evaluating gathering system design, (Tech. Paper) JPT Sept., 1067
Gas industry: supply and demand: factors controlling, (Art.) JPT Jan., 41
Gas injection for upstructure drainage, (Tech. Paper) JPT Mar., 361
Friendswood field, Texas: temporary halt to waste, (Tech. Paper) JPT June, 685
operational problems with 8000-psig injection compressors, (Tech. Paper) JPT Apr., 424
Gas percolation: method of controlling in numerical simulation of solution gas drive reservoirs, SPEJ Mar., 85
Gas production: low-permeability reservoirs: effect of rock stress, JPT Sept., 1161
Gas reservoirs: low permeability: effect of rock stress on gas production, JPT Sept., 1161
storage: factors that predict fracture orientation, (Tech. Paper) JPT May, 546
thick, low-pressure, water-sensitive: successful stimulation by pseudolimited entry, (Tech. Paper) JPT Feb., 185
Gas saturation: change: comparison of calculated with experimental imbibition relative permeability, SPEJ Dec., 419
Gas storage: underground: impermeation of porous media by forming hydrates in situ, (Tech. Paper) JPT Sept., 1059
Gas stripping: in-situ combustion process; experimental simulation of zones preceding the combustion front, SPEJ Mar., 38
Gas wells: low permeability: use of computer model in matching history and predicting performance, (Tech. Paper) JPT Dec., 1415
open flow potential test: use in determining formation capacity and skin factor, JPT July, 879
performance: simulation using tabular-graphical techniques, (Tech. Paper) JPT Oct., 1202
static pressure: method of determining from buildup data, JPT May, 621
Gases: *See also* Natural gas
hydrogen sulfide: a toxic gas that can kill, (Forum) JPT Mar., 273
Gathering system: data: use of FM radio splinter frequency, (Tech. Paper) JPT Feb., 169
design: gas field; an efficient model for evaluating, (Tech. Paper) JPT Sept., 1067
starting behavior of lines filled with gelled Prudhoe Bay oil, (Tech. Paper) JPT Mar., 301
Gels: fabric of: effect of thinners, (Tech. Paper) JPT Oct., 1193
Geological study: sandstone continuity: Mesaverde formation, Rulison field area, Colorado, (Tech. Paper) JPT Aug., 911
Geopressure: relationship to hydrocarbon accumulation and its economic significance, (Tech. Paper) JPT Aug., 923; discussion, 931
Government: views: water-pollution control, (Forum) JPT July, 829

XUM

Graphical analysis: and tabular techniques: simulation of gas well performance, (Tech. Paper) JPT Oct., 1202
pressure buildup: stabilized well, JPT Sept., 1155
Gravel packing: grain size: improper formation sampling leads to improper selection, (Tech. Paper) JPT Dec., 1403
Gravity drainage: mathematical models for predicting reservoir behavior, JPT Sept., 1145
Ground bed: subsidence: solution to problems in casing strings and wellheads, (Tech. Paper) JPT June, 654
Gulf Coast: abnormal pressures: permeability considerations in generation of, (Tech. Paper) SPEJ Sept., 236
comparison of conventional core data, well logging analyses and sidewall samples, (Tech. Paper) JPT Dec., 1409
relationship between hydrocarbon accumulation and geopressure and its economic significance, (Tech. Paper) JPT Aug., 923; discussion, 931
Texas: gas cycling project; adverse influence of stratification, (Tech. Paper) JPT Feb., 191

H

Hawkins field: *See* Texas
Health: hydrogen sulfide: a toxic gas that can kill, (Forum) JPT Mar., 273
of deep divers: a review, (Tech. Paper) JPT Mar., 294
Heat: conduction: use of finite-element method in solution of diffusion-convection equation, (Tech. Paper) SPEJ June, 139
Heat flow: reservoir heating by steam injection: two-dimensional analysis, SPEJ June, 185
Heat transfer: convection: combined free and forced type in porous media, SPEJ Dec., 399
effects in deep well fracturing, JPT Dec., 1484
Heterogeneity: Little Buffalo Basin Tensleep: its influence on drilling and secondary recovery, (Tech. Paper) JPT Feb., 161
reservoir: permeability continuity of laminae in the Calvin sandstone, (Tech. Paper) JPT June, 661
reservoir rock: use of capillary tube networks in equal-viscosity miscible displacements, (Tech. Paper) SPEJ June, 99
High pressure: method of correlation of gas-solid adsorption data, (Forum) SPEJ Mar., 4
8000-psig: operational problems with injection compressors, (Tech. Paper) JPT Apr., 424
waterflood installations: practical hydraulics of positive displacement pumps, (Tech. Paper) JPT Feb., 173
History: connate water: development of knowledge, (Forum) JPT Oct., 1264
evolution of petroleum engineering: applied to oilfield operations, (Art.) JPT Jan., 107
first ten of next hundred years, (Art.) JPT Jan., 11
matching: adjustment of reservoir simulation model to field performance, SPEJ Sept., 295
note on pulse-test interpretation (Forum) JPT Sept., 1143
use of computer model; low permeability gas wells, (Tech. Paper) JPT Dec., 1415
petroleum engineering research, (Art.) JPT Jan., 115
Hole deviation: mathematical analysis of errors in directional survey calculations, (Tech. Paper) JPT Nov., 1368
natural: role of rock strength anisotropy, JPT Nov., 1313
Huntington Beach offshore field: *See* California
Hydrates: depths to which frozen gas fields may be expected, (Tech. Paper) JPT Apr., 419
forming in situ: impermeation of porous media, (Tech. Paper) JPT Sept., 1059
Hydraulics: practical: positive displacement pumps for high-pressure waterflood installations, (Tech. Paper) JPT Feb., 173
Hydrocarbon recovery: *See* Gas recovery and Oil recovery
Hydrocarbons: light: vapor-liquid equilibrium ratios (*K*-values) at reservoir conditions, SPEJ June, 176
multicomponent systems: calculation of pressure-temperature phase envelopes, (Tech. Paper) SPEJ Sept., 243
relation between accumulation and geopressure and its economic significance, (Tech. Paper) JPT Aug., 923; discussion, 931
slugs: driven by hot water bank; oil recovery, (Tech. Paper) SPEJ Dec., 342
Hydrochloric acid: reaction characteristics in limestone formations, SPEJ Dec., 406
Hydrofluoric acid: reaction: porous sandstone, SPEJ Sept., 306
Hydrogen sulfide: gas: toxic effects, (Forum) JPT Mar., 273
rate of reaction of dissolved oxygen: chemical removal from natural waters, (Tech. Paper) JPT Apr., 443
sulfur solubility: elevated temperature and pressure, SPEJ Sept., 272

I

Imbibition: capillary pressure curves: effect of temperature level, (Tech. Paper) SPEJ Mar., 13
relative permeability: comparison of experimental and calculated results, SPEJ Dec., 419
Immiscible displacement: numerical diffusion: quantitative evaluation of truncation error, SPEJ Sept., 315
Impermeation: porous media: by forming hydrates in situ, (Tech. Paper) JPT Sept., 1059
Injection: *See also* Gas injection, Miscible displacement, Thermal recovery of oil, Solvent flooding, and Waterflooding
cold waterflooding following steam slug: oil recovery by, (Tech. Paper) SPEJ Dec., 351
crestal: gas cycling projects; Kaybob South field, (Tech. Paper) JPT Oct., 1253
gas and water in combination: Little Buffalo Basin Tensleep heterogeneity; its influence on drilling and secondary recovery, (Tech. Paper) JPT Feb., 161
modifications: Means San Andres unit waterflood, (Tech. Paper) JPT Dec., 1421
pressure: fracturing gradients in waterfloods of low-permeability, partially depleted zones, (Tech. Paper) JPT June, 727
profile control: chemical method for formation plugging, (Tech. Paper) JPT May, 559
steam: experimental investigation of soaking in a depletion-type reservoir, JPT Aug., 1006
TM sand project, Huntington Beach offshore field, JPT Aug., 987
two-dimensional analysis of reservoir heating, SPEJ June, 185
water: practical hydraulics of positive displacement pumps for high-pressure waterflood installations, (Tech. Paper) JPT Feb., 173
Injection wells: three-well pilot: determining a proper flood pattern in a channel sand, (Tech. Paper) JPT Feb., 195
Injectivity: water: development and evaluation of micellar solutions to improve, (Tech. Paper) JPT May, 614
In-situ combustion: *See* Thermal recovery of oil
Instrumentation: electronic: monitoring multiphase flow with radiotracers, (Tech. Paper) JPT Aug., 939
Interfaces: solid-liquid: viscosity increases, (Forum) JPT Oct., 1263
Interfacial tension: water against methane-normal decane mixtures: effect of temperature and pressure, SPEJ June, 171
Interference: pulse-test interpretation, (Forum) JPT Sept., 1143
International: regulations: water pollution control, (Forum) JPT July, 829
Interpretation: directional surveys: use of curvature method to determine true vertical reservoir thickness, JPT Apr., 491
gradiomanometer: new system for production monitoring, (Tech. Paper) JPT May, 603
porosity-lithology: computer-oriented generalized program of neutron, density and sonic logs, (Tech. Paper) JPT Feb., 239
pulse testing, (Forum) JPT Sept., 1143
quantitative: thermal neutron decay time logs, JPT June, 743 and 756
well log analysis for complex lithologies, JPT Aug., 995
Interstitial water: early development of knowledge, (Forum) JPT Oct., 1264
Investment: *See also* Financing
economics: model for North American oil supply and distribution, (Tech. Paper) JPT Sept., 1089
oil drilling programs: stimulant to oil development, (Tech. Paper) JPT May, 539
Iteration: matrix solution method: suitable for anisotropic problems, SPEJ Mar., 47

J

Joints: surface: a factor that predicts fracture orientation in a gas storage reservoir, (Tech. Paper) JPT May, 546

K

Kaybob South field: *See* Canada
Kinetics: combustion: methane oxidation inside sandstone matrices, (Tech. Paper) SPEJ June, 145
hydrofluoric acid reaction: porous sandstone, SPEJ Sept., 306
model: characteristics of acid reaction in limestone formations, SPEJ Dec., 406

L

Laboratory studies: Calvin sandstone: permeability continuity of laminae, (Tech. Paper) JPT June, 661
capillary pressure curves: effect of temperature level upon, (Tech. Paper) SPEJ Mar., 13
carbon dioxide: test at Mead-Strawn field, (Tech. Paper) JPT Apr., 431
carbon logging evaluation, (Tech. Paper) SPEJ June, 129; discussion, 137
carbon steel in synthetic sea water: effect of cathodic protection on corrosion fatigue behavior, (Tech. Paper) JPT Mar., 283
combined free and forced convection in porous media, SPEJ Dec., 399
consolidation of dirty sands by phenol-formaldehyde plastic, (Tech. Paper) JPT Aug., 934
crude oil pipelines: drag reduction with a polymeric additive, (Tech. Paper) SPEJ Sept., 229
drilling fluids: condition of hole and interaction with formation rock, (Tech. Paper) JPT Nov., 1294
effect of rock stress on gas production from low-permeability reservoirs, JPT Sept., 1161
fine particles: physics of movement through permeable aquifers, (Tech Paper) SPEJ Dec., 367
formation compaction: prediction from compressibility data, SPEJ Sept., 263
formation plugging: chemical method, (Tech. Paper) JPT May, 559
ground subsidence: solution to problems in casing strings and wellheads, (Tech. Paper) JPT June, 654
growth of oil slicks: control by surface chemical agents, (Tech. Paper) JPT July, 781
imbibition relative permeability: comparison of calculated with experimental results, SPEJ Dec., 419
impermeation of porous media by forming hydrates in situ, (Tech. Paper) JPT Sept., 1059
in-situ combustion process: experimental simulation of zones preceding the combustion front, SPEJ Mar., 38
in a near-depleted water drive reservoir, (Tech. Paper) JPT Feb., 153
interfacial tension: water against methane-normal decane mixtures; effect of temperature and pressure, SPEJ June, 171
methane oxidation: kinetics inside sandstone matrices, (Tech. Paper) SPEJ June, 145
micellar solutions: development and evaluation to improve water injectivity, (Tech. Paper) JPT May, 614
microemulsions: comments on determining the continuous phase, (Forum) JPT Dec., 1437
mobility control by polymer solutions: factors influencing, JPT Mar., 391
moored barge: experimental and theoretical study of motion, (Tech. Paper) SPEJ Sept., 206
oil recovery: hydrocarbon slugs driven by a hot water bank, (Tech. Paper) SPEJ Dec., 342
improved by water and gas cyclic pulsing method, JPT Dec., 1467
water-driven steam slug, (Tech. Paper) SPEJ Dec., 351
oil-water relative permeability relationships: effect of rock wettability, JPT July, 873
oxygen: chemical removal from natural waters, (Tech. Paper) JPT Apr., 443
petroleum engineering: evolution and state of the art, (Art.) JPT Jan., 115
polymer flood: prediction of performance, SPEJ Mar., 72
pore geometry: determining for porous media by use of magnetic fields, (Tech. Paper) SPEJ Sept., 223
pressure distribution under a tricone bit: effect of nozzle size, number, and extension, (Tech. Paper) JPT Nov., 1299
rock strength anisotropy: role in natural hole deviation, JPT Nov., 1313
sand-packed model: predicting reservoir behavior, JPT Sept., 1145
scale-model displacement: predict flow behavior during cementing, (Tech. Paper) JPT Sept., 1081
screening tests: defoaming agents for increased oil production rates of foamy crudes, (Tech. Paper) JPT Feb., 233
soluble oils: use for oil recovery, JPT Dec., 1475
starting behavior of gathering lines and pipelines filled with gelled Prudhoe Bay oil, (Tech. Paper) JPT Mar., 301
steamflooding: oil vaporization during, JPT June, 731
steam soaking: depletion-type reservoir, JPT Aug., 1006
thinners: effect on fabric of clay muds and gels, (Tech. Paper) JPT Oct., 1193
turbulent dispersion in porous materials: modeled by mixing cell with stagnant zone, SPEJ Mar., 57
LACT: FM radio splinter frequency: used in an alarm status and data gathering supervisory system, (Tech. Paper) JPT Feb., 169
Lewis Booch sand unit: *See* Oklahoma
Limestones: acid reaction: characteristics of, SPEJ Dec., 406
pore compressibility predictions, (Forum) SPEJ Dec., 340
Limited entry: pseudo: successful stimulation of a thick, low-pressure, water-sensitive gas reservoir, (Tech. Paper) JPT Feb., 185
Linear programming: reservoir simulation models: adjustment to match field performance, SPEJ Sept., 295
Line drive: flood pattern: determining from a three-well pilot in a channel sand, (Tech. Paper) JPT Feb., 195
gas cycling projects: numerical simulation of Kaybob South field, (Tech. Paper) JPT Oct., 1253
waterfloods: predicting optimum shut-in of wells, JPT Apr., 497
Lisbon field: *See* Utah
Lithology: complex: log analysis, JPT Aug., 995
porosity interpretation: neutron, density and sonic logs; computer-oriented generalized program, (Tech. Paper) JPT Feb., 239
Little Buffalo basin field: *See* Wyoming
LNG: supply and demand: factors controlling, (Art.) JPT Jan., 41
Logging: *See* Well logging
Log interpretation: *See* Interpretation
Louisiana: Cheniere Cadeville unit: operational problems with 8000-psig injection compressors, (Tech. Paper) JPT Apr., 424
offshore: comparison of conventional core data, well logging analyses and sidewall samples, (Tech. Paper) JPT Dec., 1409
competitive bidding in high-risk situations, (Tech. Paper) JPT June, 641
relationship between hydrocarbon accumulation and geopressure and its economic significance, (Tech. Paper) JPT Aug., 923; discussion, 931
LPG: supply and demand: factors controlling, (Art.) JPT Jan., 41

M

Magnetic fields: use in determining pore geometry of porous media, (Tech. Paper) SPEJ Sept., 223
Magnetic logging: device to detect tension failures in oilfield casing, (Tech. Paper) JPT Aug., 905
Management: production: electronic computer control system, (Tech. Paper) JPT July, 793
Marine environment: offshore development: admiralty law and its effect, (Tech. Paper) JPT Mar., 276
Material balance: water influx calculations: simplified approach for finite aquifer systems, (Tech. Paper) JPT July, 814
Mathematical modeling: *See* Models: mathematical
Mathematical programming: dynamic: optimal route for pipelines in two-phase flow, (Tech. Paper) SPEJ Sept., 215

XUM

Mathematics: analysis of errors in directional survey calculations, (Tech. Paper) JPT Nov., 1368
Matrix: acidization with highly reactive acids, SPEJ Dec., 390
solution: iterative method suitable for anisotropic problems, SPEJ Mar., 47
Mead-Strawn field: *See* Texas
Means San Andres field: *See* Texas
Methane: normal decane mixtures: interfacial tension of water against; effect of temperature and pressure, SPEJ June, 171
oxidation: kinetics inside sandstone matrices, (Tech. Paper) SPEJ June, 145
Methyl cyanoacetate: selective solvent for purifying natural gas, JPT Apr., 483
Micellar solutions: development and evaluation to improve water injectivity, (Tech. Paper) JPT May, 614
microemulsions: comments on determining the continuous phase, (Forum) JPT Dec., 1437
Midway Sunset field: *See* California
Minerals: resources: can petroleum engineering survive the space age?, (Art.) JPT Jan., 63
Miscible displacement: Calvin sandstone: permeability continuity of laminae, (Tech. Paper) JPT June, 661
equal-viscosity type: use of capillary tube networks in reservoir performance studies, (Tech. Paper) SPEJ June, 99
equations, multidimensional: improved numerical technique for solving, SPEJ Sept., 277
numerical diffusion: quantitative evaluation of truncation error, SPEJ Sept., 315
Mixing: cell: with stagnant zone; used to model turbulent dispersion in porous materials, SPEJ Mar., 57
Mixtures: gas-liquid: radiotracers in transportation problems, (Tech. Paper) JPT Aug., 939
methane-normal decane mixtures: effect of temperature and pressure on interfacial tension of water, SPEJ June, 171
Mobility: control: by polymer solution; factors influencing, JPT, Mar., 391
fluids: streamline model for secondary recovery, (Tech. Paper) SPEJ Mar., 7
Models: analytical: turbulent dispersion in porous materials using mixing cell with stagnant zone, SPEJ Mar., 57
behaviorial: continental oil supply and distribution, (Tech. Paper) JPT Sept., 1089
capillary tube networks: use in reservoir performance studies of equal-viscosity miscible displacements, (Tech. Paper) SPEJ June, 99
computer: predicting optimum shut-in of wells in peripheral and line drive waterfloods, JPT Apr., 497
displacement: scaled studies to predict flow behavior during cementing, (Tech Paper) JPT Sept., 1081
error: mathematical analysis for directional survey calculations, (Tech. Paper) JPT Nov., 1368
flow performance: utilization of outcrop data, (Tech. Paper) JPT Aug., 911
glass-bead packs: pore geometry of porous media; use of magnetic fields, (Tech. Paper) SPEJ Sept., 223
glass beads in steel tube: oil recovery by a water-driven steam slug, (Tech. Paper) SPEJ Dec., 351
kinetic: characteristics of acid reaction in limestone formations, SPEJ Dec., 406
mathematical: combined free and forced convection in porous media, SPEJ Dec., 399
competitive bidding in high-risk situations, (Tech. Paper) JPT June, 641
compositional reservoir simulator for fissured systems, (Tech. Paper) SPEJ June, 113
effect of rock stress on gas production from low-permeability reservoirs, JPT Sept., 1161
estimating skin effect in a partially completed damaged well, JPT Feb., 249
gas cycling; adverse influence of stratification, (Tech. Paper) JPT Feb., 191
matrix acidization with highly reactive acids, SPEJ Dec., 390
network system transients; calculation by implicit method, (Tech. Paper) SPEJ Dec., 356
predicting reservoir behavior, JPT Sept., 1145
relationship between proved reserves and exploratory effort, (Tech. Paper) JPT June, 671
rock/bit-tooth interaction; conical bit teeth, SPEJ June, 162
rock indentation analysis; general shapes of surface boundaries and punch profiles, SPEJ Sept., 321
scheduling development drilling, (Tech. Paper) SPEJ Sept., 252
thaw-freeze cycles beneath drilling rigs and production platforms in cold regions, JPT Mar., 381
two-dimensional analysis of reservoir heating by steam injection, SPEJ June, 185
moored barge: experimental and theoretical study of motion, (Tech. Paper) SPEJ Sept., 206
multicell: engineering overview of reservoir simulation, (Tech. Paper) JPT Dec., 1428
numerical: prediction of polymer flood performance, SPEJ Mar., 72
simulation of Kaybob South gas cycling projects, (Tech. Paper) JPT Oct., 1253
potentiometric: solving multidimensional miscible displacement equations; comparison with improved numerical technique, SPEJ Sept., 277
sand pack: experimental investigation of steam soaking in a depletion-type reservoir, JPT Aug., 1006
experimental simulation of zones preceding the combustion front of an in-situ combustion process, SPEJ Mar., 38
use of soluble oils for oil recovery, JPT Dec., 1475
simulation: adjustment to match field performance, SPEJ Sept., 295
evaluating gas field gathering system design, (Tech. Paper) JPT Sept., 1067
stratified: waterflooding; simulation by pseudo relative permeability curves, (Tech. Paper) JPT July, 805
streamline: for secondary recovery, (Tech. Paper) SPEJ Mar., 7
tension leg: analysis of platform, SPEJ Sept., 285
theoretical: transitional and turbulent flow of non-Newtonian slurries between flat parallel plates, SPEJ Mar., 52
well computer: use in matching history and predicting performance of low permeability gas wells, (Tech. Paper) JPT Dec., 1415
Montana: Cedar Creek anticline: casing failure study, (Tech. Paper) JPT June, 676
Mooring: barge: experimental and theoretical study of motion, (Tech. Paper) SPEJ Sept., 206
tension leg platform: analysis of, SPEJ Sept., 285
Mud systems: acquisition and analysis of data for optimized drilling, (Tech. Paper) JPT Nov., 1285
Multiple zones: stream channel concept applied to waterflood performance calculations for multiwell, three-component cases, (Tech. Paper) JPT Mar., 373
Multiwell systems: stream channel concept applied to waterflood performance calculations for multizone, three-component cases, (Tech. Paper) JPT Mar., 373

N

Natural gas: *See also* Gases
hydrates: depths to which frozen gas fields may be expected, (Tech. Paper) JPT Apr., 419
pipelines: network system transient calculations by implicit method, (Tech. Paper) SPEJ Dec., 356
production technology: future of, (Art.) JPT Jan., 45
selective solvent for purifying, JPT Apr., 483
supply and demand: factors controlling, (Art.) JPT Jan., 41
underground storage: economics of, (Tech. Paper) JPT Oct., 1221
vapor-liquid equilibrium ratios at reservoir conditions, SPEJ June, 176
Neutron logging: porosity-lithology interpretation: computer-oriented generalized program, (Tech. Paper) JPT Feb., 239
thermal neutron decay time logs: quantitative interpretation, JPT June, 743 and 756
New Mexico: Blanco Mesaverde field: use of computer model in matching history and predicting performance of low permeability gas wells, (Tech. Paper) JPT Dec., 1415
Nomograph: optimum flow conditions through tubing and annular spaces, (Forum) JPT Apr., 447
Non-Newtonian systems: slurries between flat parallel plates: theory of transitional and turbulent flow, SPEJ Mar., 52

North Dakota: Cedar Creek anticline: casing failure study, (Tech. Paper) JPT June, 676
North Government Wells field: *See* Texas
North Slope: construction criteria for roads and facilities, (Tech. Paper) JPT Oct., 1209
mathematical models of thaw-freeze cycles beneath drilling rigs and production platforms, JPT Mar., 381
Northwest Avard field: *See* Oklahoma
Nozzle size: tricone bit: effect on pressure distribution under, (Tech. Paper) JPT Nov., 1299
Nuclear explosives: can petroleum engineering survive the space age? (Art.) JPT Jan., 63
Nuclear logging: theoretical and laboratory evaluation of carbon logging, (Tech. Paper) SPEJ June, 129; discussion, 137
Numerical solutions: abnormal pressures: permeability considerations in generation of, (Tech. Paper) SPEJ Sept., 236
analysis of automatic closed-loop control: rotary drive engines, (Tech. Paper) JPT Nov., 1305
buildup curve analysis: after well treatment, JPT Apr., 513
capillary tube networks: use in reservoir performance studies of equal-viscosity miscible displacements, (Tech Paper) SPEJ June, 99
combined free and forced convection in porous media, SPEJ Dec., 399
compositional reservoir simulator for fissured systems: single-block model, (Tech. Paper) SPEJ June, 113
curvature method: used to determine true vertical reservoir thickness, JPT Apr., 491
diffusion: quantitative evaluation of the truncation error, SPEJ Sept., 315
directional survey calulations: mathematical analysis of errors, (Tech. Paper) JPT Nov., 1368
drainage shapes: estimating from reservoir limit tests, JPT Oct., 1266
emulsification in porous media: theoretical aspects, SPEJ June, 153
extrapolation of historical storm data for estimating design-wave heights, SPEJ Mar., 23
gas injection for upstructure drainage, (Tech. Paper) JPT Mar., 361
heat transfer effects in deep well fracturing, JPT Dec., 1484
indentation analysis: general shapes of surface boundaries and punch profiles, SPEJ Sept., 321
inflow performance of wells producing from solution gas drive reservoirs, (Forum) JPT Sept., 1141
iterative matrix solution method suitable for anisotropic problems, SPEJ Mar., 47
mathematical model: thaw-freeze cycles beneath drilling rigs and production platforms in cold regions, JPT Mar., 381
methane oxidation: kinetics inside sandstone matrices, (Tech. Paper) SPEJ June, 145
multidimensional miscible displacement equations, SPEJ Sept., 277
network system transients: implicit method, (Tech. Paper) SPEJ Dec., 356
optimal route for pipelines in two-phase flow, (Tech. Paper) SPEJ Sept., 215
prediction of polymer flood performance, SPEJ Mar., 72
pressure-temperature phase envelopes of multicomponent systems, (Tech. Paper) SPEJ Sept., 243
relationship between proved reserves and exploratory effort, (Tech. Paper) JPT June, 671
reservoir heating by steam injection: two-dimensional analysis, SPEJ June, 185
reservoir simulation models: adjustment to match field performance, SPEJ Sept., 295
rock/bit-tooth interaction: conical bit teeth, SPEJ June, 162
simulation of solution gas drive reservoirs: simple method for controlling gas percolation, SPEJ Mar., 85
skin effect: estimating in a partially completed damaged well, JPT Feb., 249
solution of diffusion-convection equations: use of finite-element method, (Tech. Paper) SPEJ June, 139
static pressure of a well: method for determining from buildup data, JPT May, 621
steamflooding: oil vaporization during, JPT June, 731
stochastic inventory model for scheduling development drilling, (Tech. Paper) SPEJ Sept., 252
stratified waterflooding: simulation by pseudo relative permeability curves, (Tech. Paper) JPT July, 805
streamline model for secondary recovery, (Tech. Paper) SPEJ Mar., 7
structural characteristics: granular porous media, (Tech. Paper) SPEJ Dec., 363
theory of transitional and turbulent flow of non-Newtonian slurries between flat parallel plates, SPEJ Mar., 52
time-dependent, nonlinear boundary value problems, (Tech. Paper) SPEJ Dec., 374
turbulent dispersion in porous materials: modeled by mixing cell with stagnant zone, SPEJ Mar., 57
two-dimensional simulation of three-dimensional reservoir performance: use of vertical equilibrium, SPEJ Mar., 63
water influx calculations: simplified approach for finite aquifer systems, (Tech. Paper) JPT July, 814
waterflood performance: stream channel concept applied to calculations for multiwell, multizone, three-component cases, (Tech. Paper) JPT Mar., 373
well in a closed drainage area: general pressure buildup theory, JPT Dec., 1493

O

Offshore: development: admiralty law and its effect, (Tech. Paper) JPT Mar., 276
growth of oil slicks: control by surface chemical agents, (Tech. Paper) JPT July, 781
moored barge: experimental and theoretical study of motion, (Tech. Paper) SPEJ Sept., 206
platforms: analysis of tension leg type, SPEJ Sept., 285
effect of cathodic protection on corrosion fatigue behavior of carbon steel, (Tech. Paper) JPT Mar., 283
extrapolation of historical storm data for estimating design-wave heights, SPEJ Mar., 23
water, wells and weather challenge, (Art.) JPT Mar., 317
Offshore drilling: floating vessels: developments in testing from, (Tech. Paper) JPT July, 788
Offshore operations: diving: health and safety review, (Tech. Paper) JPT Mar., 294
evolution of petroleum engineering as applied to oilfields, (Art.) JPT Jan., 107
steam stimulation: TM sand project, Huntington Beach offshore field, JPT Aug., 987
Oil: *See also* Petroleum
and ecology: need for a new outlook, (Forum) JPT May, 574
drilling programs: stimulant to oil development, (Tech. Paper) JPT May, 539
Oil fields: *See also* names of specific fields
development drilling: stochastic inventory model for scheduling, (Tech. Paper) SPEJ Sept., 252
operations: evolution of petroleum engineering applied to, (Art.) JPT Jan., 107
Oil industry: first ten of next hundred years, (Art.) JPT Jan., 11
planning the energy years, (Art.) JPT Jan., 13
Oil production: rates: increasing for foamy crudes by defoaming agents; laboratory screening tests and field results, (Tech. Paper) JPT Feb., 233
Oil recovery: hydrocarbon slugs: driven by hot water bank, (Tech. Paper) SPEJ Dec., 342
improved: water and gas cyclic pulsing method, JPT Dec., 1467
Mead-Strawn field: carbon dioxide pilot test, (Tech. Paper) JPT Apr., 431
reservoir engineering in the 70's and 80's (Art.) JPT Jan., 33
rock wettability: effect on oil-water relative permeability relationships, JPT July, 873
use of soluble oils, JPT Dec., 1475
water-driven steam slug, (Tech. Paper) SPEJ Dec., 351
waterflood predictions: empirical approach, (Tech. Paper) JPT May, 565
Oil shales: problems: can petroleum engineering survive the space age?, (Art.) JPT Jan., 63
Oil slicks: growth: control by surface chemical agents, (Tech. Paper) JPT July, 781
Oil wells: stabilized: simplified method of pressure build-up analysis, JPT Sept., 1155
static pressure method of determining from buildup data, JPT May, 621
Oklahoma: Calvin sandstone: permeability continuity of laminae, (Tech. Paper) JPT June, 661

XUM

East Velma field: defoaming agents for increased oil production rates of foamy crudes; laboratory screening tests and field results, (Tech. Paper) JPT Feb., 233
field tests: drag reduction with a polymeric additive in crude oil pipelines, (Tech. Paper) SPEJ Sept., 229
Lewis Booch sand unit: determining a proper flood pattern from a three-well pilot in a channel sand, (Tech. Paper) JPT Feb., 195
Northwest Avard field: pressure maintenance project, (Tech. Paper) JPT Sept., 1074
Optimization: drilling: acquisition and analysis of data, (Tech. Paper) JPT Nov., 1285
pipeline routes: two-phase flow, (Tech. Paper) SPEJ Sept., 215
steam-slug size and production cycle length: steam soaking in a depletion-type reservoir, JPT Aug., 1006
Orientation: fractures: factors that predict in a gas storage reservoir, (Tech. Paper) JPT May, 546
Oxidation: methane: kinetics inside sandstone matrices, (Tech. Paper) SPEJ June, 145
Oxygen: chemical removal from natural waters, (Tech. Paper) JPT Apr., 443
toxicity: review of health and safety of deep divers, (Tech. Paper) JPT Mar., 294

P

Packers: external casing: use for zonal segregation in the Wilmington oil field, (Tech. Paper) JPT Sept., 1101
Particles: fine: physics of movement through permeable aquifers, (Tech. Paper) SPEJ Dec., 367
Pegasus field: *See* Texas
Pennsylvania: connate water: early development of knowledge, (Forum) JPT Oct., 1264
Performance predictions: gas cycling projects: numerical simulation of Kaybob South field, (Tech. Paper) JPT Oct., 1253
gas wells: low permeability; use of computer model in matching history, (Tech. Paper) JPT Dec., 1415
simulation using tabular-graphical techniques, (Tech. Paper) JPT Oct., 1202
low-permeability reservoirs: effect of rock stress on gas production, JPT Sept., 1161
mathematical models for predicting reservoir behavior, JPT Sept., 1145
optimum shut-in of wells in peripheral and line drive waterfloods, JPT Apr., 497
Performance predictions: polymer flood, SPEJ Mar., 72
rotary rock bits, (Tech. Paper) JPT Nov., 1359
waterfloods: empirical approach, (Tech. Paper) JPT May, 565
Peripheral well pattern: waterfloods: predicting optimum shut-in of wells, JPT Apr., 497
Permafrost: Arctic region: as industrial environment; some aspects of petroleum development in northern Alaska, (Art.) JPT Jan., 19
depths to which frozen gas fields may be expected, (Tech. Paper) JPT Apr., 419
cementing materials for cold environments, (Tech. Paper) JPT Oct., 1215
Permeability: considerations in generation of abnormal pressures, (Tech. Paper) SPEJ Sept., 236
directional: channel sand; determining a proper flood pattern from a three-well pilot, (Tech. Paper) JPT Feb., 195
low: effect of rock stress on gas production, JPT Sept., 1161
fracturing gradients in waterfloods of partially depleted zones, (Tech. Paper) JPT June, 727
gas wells; use of computer model in matching history and predicting performance, (Tech. Paper) JPT Dec., 1415
water and gas cyclic method for improved oil recovery, JPT Dec., 1467
porous sandstone: hydrofluoric acid reaction with, SPEJ Sept., 306
reduction: estimating skin effect in a partially completed damaged well, JPT Feb., 249
relative: comparison of calculated with experimental imbibition results, SPEJ Dec., 419
from capillary pressure data, (Tech. Paper) SPEJ Mar., 13
key to reservoir simulation models; engineering overview, (Tech. Paper) JPT Dec., 1428
oil water relationships; effect of rock wettability, JPT July, 873
use of vertical equilibrium in two-dimensional simulation of three-dimensional reservoir performance, SPEJ Mar., 63
stratified: adverse influence on a gas cycling project, (Tech. Paper) JPT Feb., 191
continuity of laminae in the Calvin sandstone, (Tech. Paper) JPT June, 661
simulation by pseudo relative permeability curves, (Tech. Paper) JPT July, 805
wall effects alter viscosity and computed permeability, (Forum) JPT Oct., 1263
wellbore: from afterflow-dominated pressure buildup data, JPT July, 863
Petroleum: *See also* Oil
financing: current developments, (Forum) JPT Feb., 202
Petroleum economics: *See* Economics
Petroleum engineering: can it survive the space age?, (Art.) JPT Jan., 63
evolution: as applied to oilfield operations, (Art.) JPT Jan., 107
research: evolution and state of the art, (Art.) JPT Jan., 115
Petroleum industry: *See* Oil industry
Phase behavior: microemulsions: comments on determining the continuous phase, (Forum) JPT Dec., 1437
multicomponent systems: calculation of pressure-temperature envelopes, (Tech. Paper) SPEJ Sept., 243
soluble oil-water systems: use for oil recovery, JPT Dec., 1475
Phenol-formaldehyde: plastic: consolidation of dirty sands, (Tech. Paper) JPT Aug., 934
Photography: aerial: a factor that predicts fracture orientation in a gas storage reservoir, (Tech. Paper) JPT May, 546
Physical properties: granular porous media, (Tech. Paper) SPEJ Dec., 363
microemulsion: comments on determining the continuous phase, (Forum) JPT Dec., 1437
Pilot study: Mead-Strawn field: carbon dioxide test, (Tech. Paper) JPT Apr., 431
selective solvent: for purifying natural gas, JPT Apr., 483
three-well: determining a proper flood pattern in a channel sand, (Tech. Paper) JPT Feb., 195
Pipelines: crude oil: drag reduction with a polymeric additive, (Tech. Paper) SPEJ Sept., 229
network system transient calculations by implicit method, (Tech. Paper) SPEJ Dec., 356
optimal routes: two-phase flow, (Tech. Paper) SPEJ Sept., 215
radiotracers in gas-liquid transportation problems, (Tech Paper) JPT Aug., 939
Trans Alaska: starting behavior when filled with gelled Prudhoe Bay oil, (Tech. Paper) JPT Mar., 301
Plastics: indentation analysis: general shapes of surface boundaries and punch profiles, SPEJ Sept., 321
phenol-formaldehyde: consolidation of dirty sands, (Tech. Paper) JPT Aug., 934
Platforms: design criteria: estimating design-wave heights by extrapolation of historical storm data, SPEJ Mar., 23
moored: experimental and theoretical study of motion, (Tech. Paper) SPEJ Sept., 206
production: mathematical model of thaw-freeze cycles in cold regions, JPT Mar., 381
tension leg: analysis of, SPEJ Sept., 285
Plugging: formation: chemical method, (Tech. Paper) JPT May, 559
porous media: by forming hydrate in situ, (Tech. Paper) JPT Sept., 1059
sulfur: solubility in hydrogen sulfide and in carbon disulfide at elevated temperature and pressure, SPEJ Sept., 272
Poisson ratio: low-permeability, partially depleted zones: fracturing gradients in waterfloods, (Tech. Paper) JPT June, 727
Pollution: water: government views on control, (Forum) JPT July, 829
Polymers: drag reduction additive in crude oil pipelines, (Tech. Paper) SPEJ Sept., 229
solutions: factors influencing mobility control, JPT Mar., 391
waterflooding: prediction of performance, SPEJ Mar., 72

Pore size distribution: porous media: use of magnetic fields in determining pore geometry, (Tech. Paper) SPEJ Sept., 223
Porosity: granular porous media, (Tech. Paper) SPEJ Dec., 363
lithology interpretation: neutron, density and sonic logs; computer-oriented generalized program, (Tech. Paper) JPT Feb., 239
sandstone: hydrofluoric acid reaction with, SPEJ Sept., 306
Porous media: *See also* Reservoir rocks
combined free and forced convection within, SPEJ Dec., 399
factors influencing mobility control by polymer solutions, JPT Mar., 391
granular: structural characteristics, (Tech. Paper) SPEJ Dec., 363
impermeation by forming hydrates in situ, (Tech. Paper) JPT Sept., 1059
permeable aquifers: physics of fine-particle movement through, (Tech. Papers) SPEJ Dec., 367
pore geometry: use of magnetic fields in determining, (Tech. Paper) SPEJ Sept., 223
theoretical aspects of emulsification, SPEJ June, 153
Preflushes: permeability improving: prior to consolidation of dirty sands by phenol-formaldehyde plastic, (Tech. Paper) JPT Aug., 934
Pressure behavior: *See also* Reservoir pressure
abnormal: permeability considerations in generation of, (Tech. Paper) SPEJ Sept., 236
drop in pressure in tubing and annular spaces for optimum flow conditions, (Forum) JPT Apr., 447
effect with temperature on interfacial tension of water against methane-normal decane mixtures, SPEJ June, 171
elevated conditions: sulfur solubility in hydrogen sulfide and in carbon disulfide, SPEJ Sept., 272
multicomponent systems: calculation of phase envelopes, (Tech. Paper) SPEJ Sept., 243
reservoir rocks: effect on predicting pore compressibility, (Forum) SPEJ Dec., 340
Pressure buildup: curves: analysis after well treatment, JPT Apr., 513
determining formation capacity and skin factor, JPT July, 879
short-term afterflow-dominated data: wellbore transmissibility from, JPT July, 863
short-term testing, (Tech. Paper) JPT July, 800
simplified method of analysis for a stabilized well, JPT Sept., 1155
static pressure determination of a well, JPT May, 621
theory: well in a closed drainage area, JPT Dec., 1493
Pressure distribution: under tricone bit: effect of nozzle size, number, and extension, (Tech. Paper) JPT Nov., 1299
Pressure drawdown: tests: estimating drainage shapes, JPT Oct., 1266
Pressure maintenance: *See also* Gas injection, Miscible displacement, and Waterflooding
Northwest Avard project, (Tech. Paper) JPT Sept., 1074
Production: management: electronic computer ushers in new era, (Tech. Paper) JPT July, 793
natural gas: future of technology, (Art.) JPT Jan., 45
payments: current developments in petroleum financing, (Forum) JPT Feb., 202
rate: during gas injection for upstructure drainage, (Tech. Paper JPT Mar., 361
solution-gas-drive reservoirs: calculation of inflow performance of wells, (Forum) JPT Sept., 1141
Production logging: combination tool: new system for production monitoring, (Tech. Paper) JPT May, 603
Production operations: *See also* the specific operation
evolution of petroleum engineering as applied to oilfields, (Art.) JPT Jan., 107
future forecast, (Art.) JPT Jan., 27
Properties: reservoir: formation evaluation goals, (Art.) JPT Jan., 55
Propylene carbonate: selective solvent for purifying natural gas, JPT Apr., 483
Prudhoe Bay field: *See* Alaska
Prudehoe Bay oil: *See* Alaska
Publications: petroleum engineering research, (Art.) JPT Jan., 115
Pulse testing: interpretion, (Forum) JPT Sept., 1143
Pumping wells: short-term buildup testing, (Tech. Paper) JPT July, 800
Pumps: efficiency improvements: defoaming agents for increased oil production rates of foamy crudes, (Tech. Paper) JPT Feb., 233
positive displacement: practical hydraulics for high-pressure waterflood installations, (Tech. Paper) JPT Feb., 173

R

Radio: FM: splinter frequency; used in an alarm-status and data-gathering supervisory system, (Tech. Paper) JPT Feb., 169
Radio tracers: gas-liquid transportation problems: field case, (Tech. Paper) JPT Aug., 939
Rate of return: high-risk situations: competitive bidding, (Tech. Paper) JPT June, 641
Reaction rates: dissolved oxygen: chemical removal from natural waters, (Tech. Paper) JPT Apr., 443
Recovery methods: *See also* Oil recovery, Secondary recovery, and Thermal recovery of oil
primary: in-situ combustion in Midway Sunset field, JPT Aug., 981
production operations of the future, (Art.) JPT Jan., 27
Regulatory practices: offshore development: admiralty law and its effect, (Tech. Paper) JPT Mar., 276
Relative permeability: *See* Permeability: relative
Research: petroleum engineering: evolution and state of the art, (Art.) JPT Jan., 115
Reserves: North America: model for continental oil supply and distribution, (Tech. Paper) JPT Sept., 1089
proved by exploratory effort, (Tech. Paper) JPT June, 671
Reservoir analysis: *See* Performance predictions
equal-viscosity miscible displacements: use of capillary tube networks, (Tech. Paper) SPEJ June, 99
Friendswood field, Texas, (Tech. Paper) JPT June, 685
heating by steam injection: two-dimensional, SPEJ June, 185
mathematical models for predicting behavior, JPT Sept., 1145
three-dimensional: use of vertical equilibrium in two-dimensional simulation, SPEJ Mar., 63
water influx calculations: simplified approach for finite aquifer systems, (Tech. Paper) JPT July, 814
Reservoir characteristics: description: adjustment of reservoir simulation models to match field performance, SPEJ Sept., 295
formation evaluation: goals, (Art.) JPT Jan., 55
structural: granular porous media, (Tech. Paper) SPEJ Dec., 363
Reservoir engineering: *See* Reservoir mechanics
Reservoir limit tests: drainage shapes: estimating, JPT Oct., 1266
Reservoir mechanics: engineering in the 70's and 80's, (Art.) JPT Jan., 33
field test of in-situ combustion process in near-depleted water drive reservoir, (Tech. Paper) JPT Feb., 153
Reservoir pressure: *See also* Pressure behavior
and temperature: vapor-liquid equilibrium ratios of light hydrocarbons, SPEJ June, 176
Reservoir rocks: *See also* Cores and Porous media
predicting pore compressibility, (Forum) SPEJ Dec., 340
selection and performance of rotary rock bits, (Tech. Paper) JPT Nov., 1359
strength anisotropy: role in natural hole deviation, JPT Nov., 1313
wettability: effect on oil-water relative permeability relationships, JPT July, 873
Reservoir simulation: *See also* Models
anisotropy: iterative matrix solution method suitable for, SPEJ Mar., 47
compositional: fractured system, single-block model, (Tech. Paper) SPEJ June, 113
models: adjustment to match field performance, SPEJ Sept., 295
an engineering overview, (Tech. Paper) JPT Dec., 1428
numerical: simple method for controlling gas percolation of solution gas drive reservoirs, SPEJ Mar., 85
stratified waterflooding by pseudo relative permeability curves, (Tech. Paper) JPT July, 805
Reservoirs: *See also* type, such as Gas-cap drive, Gravity drainage, Solution-gas drive, and Water drive, and also specific names
solution-gas drive: calculation of inflow performance of wells, (Forum) JPT Sept., 1141

XUM

simple method for controlling gas percolation in numerical simulation, SPEJ Mar., 85
true vertical thickness: use of curvature method to determine, JPT Apr., 491
Rheology: clay muds and gels: effect of thinners on fabric, (Tech. Paper) JPT Oct., 1193
factor influencing mobility control by polymer solutions, JPT Mar., 391
Prudhoe Bay oil: starting behavior of gathering lines and pipelines filled with, (Tech. Paper) JPT Mar., 301
Risk analysis: competitive bidding, (Tech. Paper) JPT June, 641
Rock mechanics: effect of stress on gas production from low-permeability reservoirs, JPT Sept., 1161
formation compaction: prediction from laboratory compressibility data, SPEJ Sept., 263
indentation analysis: general shapes of surface boundaries and punch profiles, SPEJ Sept., 321
rock/bit-tooth interaction: conical bit teeth, SPEJ June, 162
Rock properties: wettability: effect on oil-water relative permeability relationships, JPT July, 873
Rocks: *See* Reservoir rocks
Rotary drive: engines: analysis of automatic closed-loop control, (Tech. Paper) JPT Nov., 1305
Rulison field: *See* Colorado

S

Safety: hydrogen sulfide: a toxic gas that can kill, (Forum) JPT Mar., 273
of deep divers; a review, (Tech. Paper) JPT Mar., 294
Sampling: formation: when done improperly leads to improper selection of gravel size, (Tech. Paper) JPT Dec., 1403
Sand control: consolidation of dirty sands by phenol-formaldehyde plastic, (Tech. Paper) JPT Aug., 934
gravel size: improper formation sampling leads to improper gravel selection, (Tech. Paper) JPT Dec., 1403
well completions: a look forward, (Art.) JPT Jan., 128
workover and completion technology survey, (Tech. Paper) JPT Nov., 1375
Sands: channel: determining a proper flood pattern from a three-well pilot, (Tech. Paper) JPT Feb., 195
dirty: consolidation by phenol-formaldehyde plastic, (Tech. Paper) JPT Aug., 934
Sandstone: Calvin: permeability continuity of laminae, (Tech. Paper) JPT June, 661
lens geometry and continuity: Mesaverde formation, Rulison field area, Colorado, (Tech. Paper) JPT Aug., 911
matrices: kinetics of methane oxidation, (Tech. Paper) SPEJ June, 145
pore compressibility predictions, (Forum) SPEJ Dec., 340
porous: hydrofluoric acid reaction, SPEJ Sept., 306
stimulation of formations with the acid-mutual solvent method, (Tech. Paper) JPT May, 551
Scaling: physical model: for experimental investigation of steam soaking in a depletion-type reservoir, JPT Aug., 1006
Scavengers: chemical: removal of oxygen from natural waters, (Tech. Paper) JPT Apr., 443
Science: environmental: oil and ecology; need for a new outlook, (Forum) JPT May, 574
Secondary recovery: *See also* Gas injection, Miscible displacement, Thermal recovery of oil, Solvent flooding, and Waterflooding
formation evaluation goals, (Art.) JPT Jan., 55
influence of Little Buffalo Basin Tensleep heterogeneity, (Tech. Paper) JPT Feb., 161
steamflooding: oil vaporization during, JPT June, 731
streamline model for, (Tech. Paper) SPEJ Mar., 7
waterflood predictions: empirical approach, (Tech. Paper) JPT May, 565
Sedimentary rocks: directional properties: fracture orientation prediction in gas storage reservoir, (Tech. Paper) JPT May, 546
Shale: hydration: drilling fluid problem, (Tech paper) JPT Nov., 1294
sandstone sequence: permeability considerations in generation of abnormal pressures, (Tech. Paper) SPEJ Sept., 236
Shale oils: *See* Oil shales
Shape factor: drainage shape estimation from reservoir limit tests, JPT Oct., 1266
Sidewall coring: comparison with conventional core data and well logging analyses, (Tech. Paper) JPT Dec., 1409
Simulation: experimental: of zones preceding the combustion front of an in-situ combustion process, SPEJ Mar., 38
gas-well performance: using tabular-graphical techniques, (Tech. Paper) JPT Oct., 1202
matrix acidization: with highly reactive acids, SPEJ Dec., 390
model: evaluating gas field gathering system design, (Tech. Paper) JPT Sept., 1067
numerical: Kaybob South gas cycling projects, (Tech. Paper) JPT Oct., 1253
sandstone continuity: Mesaverde formation, Rulison field area, Colorado, (Tech. Paper) JPT Aug., 911
two-dimensional: of three-dimensional reservoir performance; use of vertical equilibrium, SPEJ Mar., 63
Skin effect: estimating: partially completed damaged well, JPT Feb., 249
stabilized well: simplified method of pressure buildup analysis, JPT Sept., 1155
use of open flow potential test data in determining, JPT July, 879
Slurries: non-Newtonian: between flat parallel plates; theory of transitional and turbulent flow, SPEJ Mar., 52
Soluble oils: use for oil recovery, JPT Dec., 1475
Solubility: sulfur in hydrogen sulfide and in carbon disulfide at elevated temperature and pressure, SPEJ Sept., 272
Solution-gas drive: reservoirs: calculation of inflow performance of wells, (Forum) JPT Sept., 1141
simple method for controlling gas percolation in numerical simulation, SPEJ Mar., 85
Solvent flooding: hot water bank: oil recovery by driving hydrocarbon slugs, (Tech. Paper) SPEJ Dec., 342
stimulation of sandstone formations, (Tech. Paper) JPT May, 551
Solvents: selective: for purifying natural gas, JPT Apr., 483
Sonic method: porosity-lithology interpretation: computer-oriented generalized program, (Tech. Paper) JPT Feb., 239
Spindletop field: *See* Texas
Stability: borehole: drilling fluids problems, (Tech. Paper) JPT Nov., 1294
hydrodynamic: liquid surfaces in porous media; emulsification aspects, SPEJ June, 153
Static pressure: gas and oil wells: method for determining from buildup data, JPT May, 621
Statistics: extrapolation of historical storm data for estimating design-wave heights, SPEJ Mar., 23
mathematical analysis of errors in directional survey calculations, (Tech. Paper) JPT Nov., 1368
structural characteristics: granular porous media, (Tech. Paper) SPEJ Dec., 363
use in organization of field tests and evaluation of tricone bit performance, JPT Apr., 506
Steam injection: *See* Thermal recovery of oil
Stimulation: *See* Well stimulation or the specific process
reservoir: oil vaporization during steamflooding, JPT June, 731
steam: TM sand project, Huntington Beach offshore field, JPT Aug., 987
Storage: gas: economics of underground type, (Tech. Paper) JPT Oct., 1221
gas reservoir: factors that predict fracture orientation, (Tech. Paper) JPT May, 546
Storage facilities: *See* Underground storage
Stratification: *See* Permeability: stratified
Stresses: reservoir rocks: effect on predicting pore compressibility, (Forum) SPEJ Dec., 340
Sulfur: solubility: in carbon disulfide and hydrogen sulfide at elevated temperature and pressure, SPEJ Sept., 272
Supply and demand: energy: long-range planning 20 years ahead, (Art.) JPT Jan., 13
for first ten of next hundred years, (Art.) JPT Jan., 11
gas: economics of underground storage, (Tech. Paper) JPT Oct., 1221
factors controlling, (Art.) JPT Jan., 41
Surface active agents: control of oil slick growth, (Tech. Paper) JPT July, 781
Synthetic fuels: production operations of the future, (Art.) JPT Jan., 27

T

Taxation: petroleum financing: current developments, (Forum) JPT Feb., 202
Technical committee: SPE: Uintah Basin Section uses TIC concept to advise citizens of earthquake study, (Art.) JPT Mar., 340
Technical papers: petroleum engineering research, (Art.) JPT Jan., 115
Technical proficiency: a key to drilling success in coming decades, (Art.) JPT Jan., 122
natural gas production, (Art.) JPT Jan., 45
Telemetering: FM radio splinter frequency: used in an alarm-status and data-gathering supervisory system, (Tech. Paper) JPT Feb., 169
Temperature: earth: depths to which frozen gas fields may be expected, (Tech. Paper) JPT Apr., 419
effect with pressure on interfacial tension of water against methane-normal decane mixtures, SPEJ June, 171
elevated conditions: sulfur solubility in hydrogen sulfide and in carbon disulfide, SPEJ Sept., 272
high: method of correlation of gas-solid adsorption data, (Forum) SPEJ Mar., 4
level: effect upon capillary pressure curves, (Tech. Paper) SPEJ Mar., 13
low: cementing materials, (Tech. Paper) JPT Oct., 1215
pressure: phase envelope calculations of multicomponent systems, (Tech. Paper) SPEJ Sept., 243
Ternary diagrams: soluble oil-water system: describes phase behavior in oil recovery, JPT Dec., 1475
Testing: from floating vessels: developments, (Tech. Paper) JPT July, 788
injection wells: fracturing gradients in waterfloods of low-permeability, partially depleted zones, (Tech. Paper) JPT June, 727
natural gas wells: future of technology, (Art.) JPT Jan., 45
reservoir limits: estimating drainage shapes, JPT Oct., 1266
saturation dives: review of health and safety of deep divers, (Tech. Paper) JPT Mar., 294
short-term buildup, (Tech. Paper) JPT July, 800
Texas: field applications: automatic closed-loop control of rotary drive engines, (Tech. Paper) JPT Nov., 1305
Friendswood field: unitization and pressure maintenance by water injection, (Tech. Paper) JPT June, 685
Gulf Coast: gas cycling project; adverse influence of stratification, (Tech. Paper) JPT Feb., 191
ground subsidence; solution to problems in casing strings and wellheads, (Tech. Paper) JPT June, 654
Hawkins field: mathematical models for predicting reservoir behavior, JPT Sept., 1145
Mead-Strawn field: carbon dioxide test, (Tech. Paper) JPT Apr., 431
Means San Andres unit: evaluation and modification of the waterflood, (Tech. Paper) JPT Dec., 1421
North Government Wells field: field test of in-situ combustion process in a near-depleted water drive reservoir, (Tech. Paper) JPT Feb., 153
Pegasus field: electronic computer production management, (Tech. Paper) JPT July, 793
Spindletop field: great oil well near Beaumont, (Art.) JPT Nov., 1328
relationship between hydrocarbon accumulation and geopressure and its economic significance, (Tech. Paper) JPT Aug., 923; discussion, 931
Welch field: simulation of stratified waterflooding by pseudo relative permeability curves, (Tech. Paper) JPT July, 805
Thermal neutron decay time logs: quantitative interpretation, JPT June, 743 and 756
Thermal recovery of oil: convection: combined free and forced in porous media, SPEJ Dec., 399
hot water bank: driving hydrocarbon slugs, (Tech. Paper) SPEJ Dec., 342
in-situ combustion: a primary recovery process in Midway Sunset field, JPT Aug., 981
experimental simulation of the zones preceding the combustion front, SPEJ Mar., 38
field test of process in a near-depleted water drive reservoir, (Tech. Paper) JPT Feb., 153
methane oxidation: kinetics inside sandstone matrices, (Tech. Paper) SPEJ June, 145
oil vaporization during steamflooding, JPT June, 731
steam injection: two-dimensional analysis of reservoir heating, SPEJ June, 185
wells; magnetic device to detect tension failures in casing, (Tech. Paper) JPT Aug., 905
steam soaking: experimental investigation in a depletion-type reservoir, JPT Aug., 1006
steam stimulation: TM sand project, Huntington Beach offshore field, JPT Aug., 987
water-driven steam slug: oil recovery, (Tech. Paper) SPEJ Dec., 351
Thinners: effect on fabric of clay muds and gels, (Tech. Paper) JPT Oct., 1193
Toxic effects: hydrogen sulfide: a gas that can kill, (Forum) JPT Mar., 273
oxygen: review of health and safety of deep divers, (Tech. Paper) JPT Mar., 294
Tracers: argon 41 and bromine 82: use in gas-liquid transportation problems, (Tech. Paper) JPT Aug., 939
Transient flow: network system calculations by implicit method, (Tech. Paper) SPEJ Dec., 356
Transportation: problems; use of radiotracers in gas-liquid mixtures, (Tech. Paper) JPT Aug., 939
Tubing: optimum flow conditions through, (Forum) JPT Apr., 447
Tubular goods: well completions: a look forward, (Art.) JPT Jan., 128
Tundra: Arctic as an industrial environment: some aspects of petroleum development in northern Alaska, (Art.) JPT Jan., 19
Turbulent flow: dispersion in porous materials: modeled by mixing cell with stagnant zone, SPEJ Mar., 57
theory: non-Newtonian slurries between flat parallel plates, SPEJ Mar., 52

U

Underground storage: gas: economics of, (Tech. Paper) JPT Oct., 1221
impermeation of porous media by forming hydrates in situ, (Tech. Paper) JPT Sept., 1059
Uintah basin: *See* Colorado
United States: planning the energy year, (Art.) JPT Jan., 13
Unitization: Northwest Avard pressure maintenance project, (Tech. Paper) JPT Sept., 1074
requirement for additional recovery from Friendswood field, Texas, (Tech. Paper) JPT June, 685
University: UCLA: environmental science and engineering program, (Forum) JPT May, 574
Utah: Lisbon field: pilot plant test of selective solvent for purifying natural gas, JPT Apr., 483

V

Valuations: *See* Evaluations
Valves: safety: developments in testing from floating vessels, (Tech. Paper) JPT July, 788
Vaporization: oil: during steamflooding, JPT June, 731
Vapor pressure: extrapolation: method of correlation of high-temperature, high-pressure gas-solid adsorption data, (Forum) SPEJ Mar., 4
Velocity logging: *See* Acoustic velocity logging
Viscoelasticity: factor influencing mobility control by polymer solutions, JPT Mar., 391
Viscosity: differences: leading to emulsification in porous media, SPEJ June, 153
equal: use of capillary tube networks in reservoir performance studies of miscible displacements, (Tech. Paper) SPEJ June, 99
liquids: porous media; wall effects alter, (Forum) JPT Oct., 1263
Volatile oils: calculation of pressure-temperature phase envelopes, (Tech. Paper) SPEJ Sept., 243

W

Water: connate: early development of knowledge, (Forum) JPT Oct., 1264
interfacial tension: against methane-normal decane mixtures; effect of temperature and pressure, SPEJ June, 171
natural: chemical removal of oxygen, (Tech. Paper) JPT Apr., 443
offshore challenge, (Art.) JPT Mar., 317
permeable aquifers: physics of fine-particle movement through, (Tech Paper) SPEJ Dec., 367

XUM

underrunning: mathematical models for predicting reservoir behavior, JPT Sept., 1145
Water base gels: fracturing fluid: heat transfer effects in deep wells, JPT Dec., 1484
Water coning: mathematical models for predicting reservoir behavior, JPT Sept., 1145
Water cyclic pulsing: improved oil recovery method, JPT Dec., 1467
Water drive: Northwest Avard field, Oklahoma, (Tech. Paper) JPT Sept., 1074
Water drive reservoirs: near-depleted: field test of in-situ combustion process, (Tech. Paper) JPT Feb., 153
water influx calculations: simplified approach for finite aquifer systems, (Tech. Paper) JPT July, 814
Waterflooding: driving steam slug: oil recovery by, (Tech. Paper) SPEJ Dec., 351
fracturing gradients in low-permeability, partially depleted zones, (Tech. Paper) JPT June, 727
high-pressure installations: practical hydraulics of positive displacement pumps, (Tech. Paper) JPT Feb., 173
hot: oil recovery by driving hydrocarbon slugs, (Tech. Paper) SPEJ Dec., 342
Lewis Booch sand unit, Oklahoma: determining a proper flood pattern from a three-well pilot in a channel sand, (Tech. Paper) JPT Feb., 195
Means San Andres unit: evaluation and modification, (Tech Paper) JPT Dec., 1421
peripheral and line drives: predicting optimum shut-in of wells, JPT Apr., 497
predictions: empirical approach, (Tech. Art.) JPT May, 565
stratified: simulation by pseudo relative permeability curves, (Tech. Paper) JPT July, 805
steam channel concept applied to performance calculations for multiwell, multizone, three-component cases, (Tech. Paper) JPT Mar., 737
Water influx: calculations: simplified approach for finite aquifer systems, (Tech. Paper) JPT July, 814
Water injection: Friendswood field, Texas: additional recovery, (Tech. Paper) JPT June, 685
Water pollution: control: government views, (Forum) JPT July, 829
Water saturation: irreducible: effect of temperature level, (Tech. Paper) SPEJ Mar., 13
Water shutoff: formation plugging: chemical method, (Tech. Paper) JPT May, 559
Wave action: tension leg platform: analysis of, SPEJ Sept., 285
Wave heights: estimating for design: extrapolation of historical storm data, SPEJ Mar., 23
Webster field: *See* Texas, Friendswood field
Welch field: *See* Texas
Wellbore mechanics: damage analysis: short-term buildup testing, (Tech. Paper) JPT July, 800
drilling fluids problem, (Tech. Paper) JPT Nov., 1294
fluid movement: chemical method for formation plugging, (Tech. Paper) JPT May, 559
rock strength anisotropy: role in natural hole deviation, JPT Nov., 1313
transmissibility from afterflow-dominated pressure buildup data, JPT July, 863
Well completions: *See also* specific types
a look forward, (Art.) JPT Jan., 128
and workovers: survey of technology, (Tech. Paper) JPT Nov., 1375
Cedar Creek anticline, Montana and North Dakota: casing failure study, (Tech. Paper) JPT June, 676
damaged: estimating skin effect in a partially completed well, JPT Feb., 249
external casing packers: zonal segregation in the Wilmington oil field, (Tech. Paper) JPT Sept., 1101
gravel size: improper formation sampling leads to improper selection, (Tech Paper) JPT Dec., 1403
natural gas wells: future of technology, (Art.) JPT Jan., 45
Wellheads: solution to ground subsidence problems, (Tech. Paper) JPT June, 654
Well logging: analyses: comparison with conventional core data and sidewall samples, (Tech. Paper) JPT Dec., 1409
in formations with complex lithologies, JPT Aug., 995
carbon logging: theoretical and laboratory evaluation, (Tech. Paper) SPEJ June, 129; discussion, 137
formation evaluation goals, (Art.) JPT Jan., 55
magnetic casing tool: device to detect tension failures in oilfield casing, (Tech. Paper) JPT Aug., 905
production combination tool: new system for production monitoring, (Tech. Paper) JPT May, 603
thermal neutron decay time logs: quantitative interpretation, JPT June, 743 and 756
Well logs: geopressure calculations: economic significance, (Tech. Paper) JPT Aug., 923; discussion, 931
neutron, density and sonic: computer-oriented generalized porosity-lithology interpetation, (Tech. Paper) JPT Feb., 239
Well pattern: line drive and five spot: prediction of polymer flood performance, SPEJ Mar., 72
Means San Andres unit waterflood: evaluation and modification, (Tech Paper) JPT Dec., 1421
Well performance: *See also* Wellbore mechanics
calculation of inflow: solution-gas-drive reservoirs, (Forum) JPT Sept., 1141
closed drainage area: general pressure buildup theory, JPT Dec., 1493
gas: simulation using tabular-graphical techniques, (Tech. Paper) JPT Oct., 1202
new system for production monitoring: production combination tool, (Tech. Paper) JPT May, 603
skin effect: estimating in a partially completed damaged well, JPT Feb., 249
stabilized well: simplified method of pressure analysis, JPT Sept., 1155
Well stimulation: *See also* Acidizing and Formation fracturing
a look forward, (Art.) JPT Jan., 128
deep well fracturing: heat transfer effects, JPT Dec., 1484
micellar solutions: development and evaluation to improve water injectivity, (Tech. Paper) JPT May, 614
pseudolimited entry successful: thick, low-pressure, water-sensitive gas reservoir, (Tech. Paper) JPT Feb., 185
sandstone formations: acid-mutual solvent method, (Tech. Paper) JPT May, 551
workover and completion technology survey, (Tech. Paper) JPT Nov., 1375
Well treatment: analysis of buildup curves obtained after, JPT Apr., 513
Well workovers: *See* Workovers
Wettability: rock: effect on oil-water relative permeability relationships, JPT July, 873
Wilmington field: *See* California
Workovers: and completions: technological survey, (Tech. Paper) JPT Nov., 1375
Cedar Creek anticline, Montana and North Dakota: casing failure study, (Tech. Paper) JPT June, 676
remedial: well selection from afterflow-dominated pressure buildup data, JPT July, 863
Wormholes: limestone formations: characteristics of acid reaction, SPEJ Dec., 406
matrix acidization: with highly reactive acids, SPEJ Dec., 390
Wyoming: Little Buffalo Basin field: Tensleep heterogeneity; its influence on drilling and secondary recovery, (Tech. Paper) JPT Feb., 161

Z

Zonation: segregation: use of external casing packers in the Wilmington oil field, (Tech. Paper) JPT Sept., 1101